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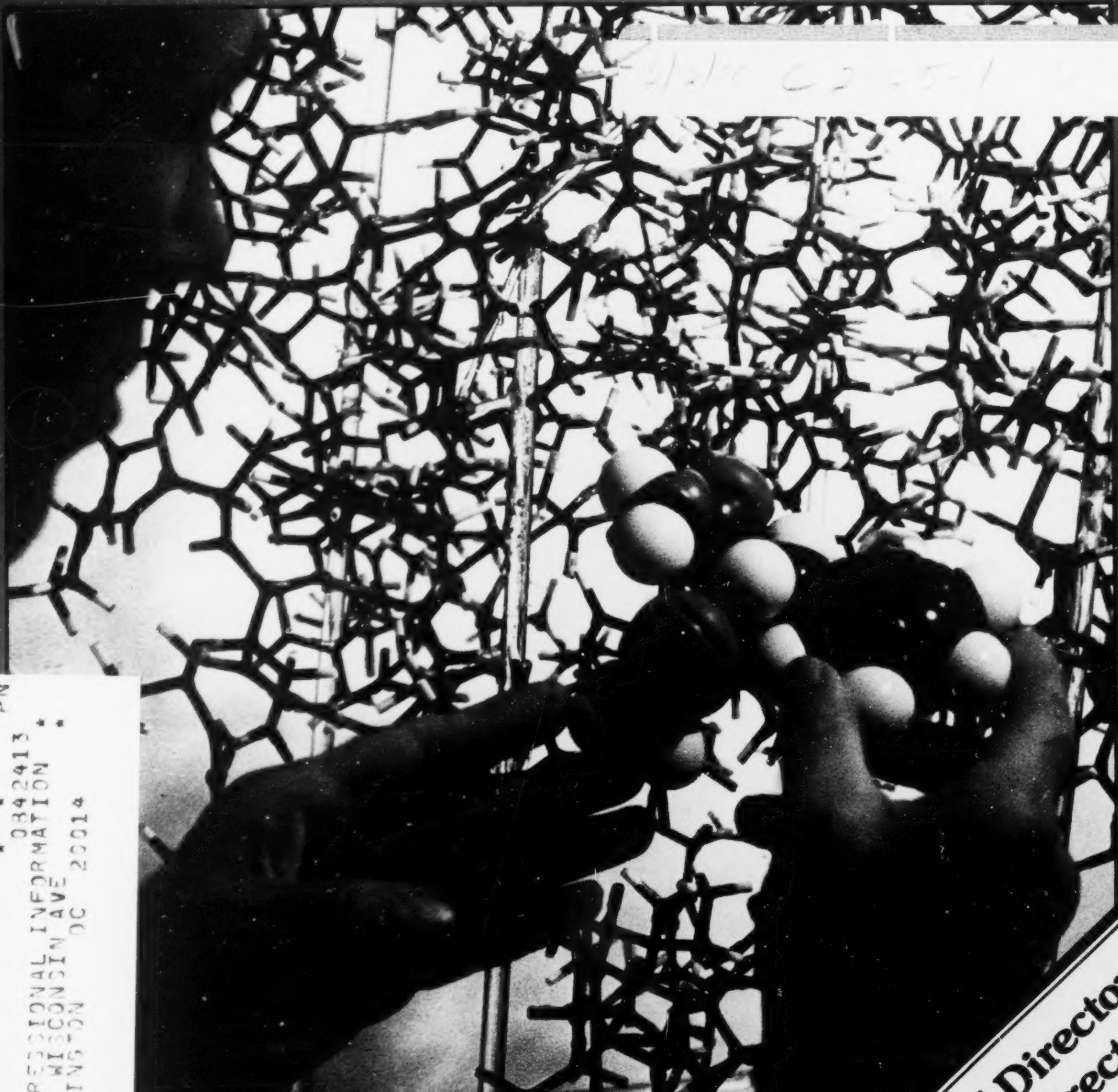
DECEMBER 1980

Pension World

The Magazine for Plan Sponsors / A Publication of Communication Channels, Inc.

CIBA-GEIGY: Building Mobility into Its Fund



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A Look at Congressional Pensions

The Future of Master Trust

5th Annual Directory of Master & Directed Trust Services

December 1980

Pension World

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FEATURES

8 **Building mobility into a $180 million pension fund** **by Ronald Derven**
Jon Swenson discusses how CIBA-GEIGY keeps its plan agile and intelligently mobile.

12 **Master trust — its future** **by Grant McMurry**
A consultant with extensive experience in choosing master trusts examines the origin of master trust and projects the significant changes that may be forthcoming.

14 **Seasoned mortgages — an investment for pension funds** **by Richard A. Dorfman**
A real estate expert explores the "seasoned" home mortgage market as an investment vehicle for pension funds.

20 **Master trust — the key questions** **by Ronald Derven**
Representatives from seven top financial institutions address plan sponsors' basic master trust questions.

25 **Update: Canadian pension funds** **by Wayne D. Beazer**
Pension World reports on the state-of-the-art in Canadian pension investments.

30 **Exiting with a sweet carrot** **by Roy A. Schotland and Martha Jo Wagner Paris**
Congressional pensions remain the sweetest — and perhaps costliest — pensions in the country.

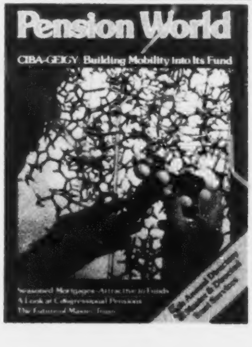
41 **Analyzing options** **by Linda R. Taylor**
Pension World Basics looks at this controversial form of alternative investing.

53 **5th Annual Directory of Master and Directed Trust Services**
More than 70 financial institutions report on the assets held, services provided, reporting procedures, and fee structures for their master and directed trusts.

DEPARTMENTS

4 **Letters to the Editor**
5 **Washington Newsletter**
35 **Pension News**
38 **Pension People**
40 **Meetings and Conventions**
46 **What Every Fiduciary Should Know**

Cover: Chromosome structure is important to production at CIBA-GEIGY. The structure of CIBA-GEIGY's pension fund — also important — begins on page 8.



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Update:
Canadian pension funds

by Wayne D. Beazer

In July, 1975, *Pension World* reported that the book value of Canadian trusteed pension assets grew in 1973 at the highest rate for any single year since 1960. Since that report, which was based on information prepared by Statistics Canada, the growth of Canadian trusteed pension assets has continued at record levels. In 1978, based on the December, 1978, Statistics Canada annual figures, growth reached a 19.43 percent rate. This represented a book value of $35.5 billion in assets, a 100 percent increase over the December, 1974, asset value. (See Table I.) The most dramatic increases occurred in 1975 and 1978, and it appears that growth rates are continuing into the present.

Though trusteed pension funds constitute a comparatively minor portion of the *number* of pension plans in Canada, they are the dominant *group* in terms of participating members, contributions, and assets held. The trusteed assets reported were held for 2.8 million pension plan members, an increase of 22 percent during the 1974-78 period despite a 14 percent decline in the total number of trusteed pension funds. Generally, trusteed plans tend to be found in larger organizations, whereas smaller plans tend to gravitate to insurance contracts as a funding vehicle.

In 1961, Canadian life insurance companies were allowed to enter the pension business through the use of segregated funds. These funds were offered to pension sponsors as a median for participation in marketing value securities and were segregated from the firms' regular life insurance and annuities business. As of December 31, 1978, the market value of assets managed by the majority (33) of insurance companies was $4.3 billion in segregated funds, or approximately 12 percent of the trusteed assets.

The balance of this article will relate to trusteed assets; however, many similarities exist between the insurance segregated funds and trusteed assets, and parallel conclusions may be drawn in most instances.

On December 31, 1978, the market value of assets held in trusteed pension funds exceeded the book value. Table II reviews the recent book/market value history and as is evidenced, 1978 was the first year since 1973 that market value exceeded book value, reflecting the improved market conditions during 1978. The market value of pension funds was $36.2 billion. With net cash flow approximating 15 percent per annum and the Canadian equity markets of 1979 and 1980 experiencing dramatic strength, one might expect the market value of Canadian trusteed pension funds to exceed $55 billion by December, 1980. Market value should continue to overrun book value in 1980.

The Statistics Canada figures in Table III can be misleading, although the directional trend is indicative of the somewhat more cautious stance Canadian investors have tended to assume compared to their U.S. counterparts. The 1960's witnessed a convergent trend between Canadian and U.S. pension plan exposure to equities. Equity exposure within Canadian pension funds peaked in 1972, and every year until 1978, we experienced a declining trend in equity exposure.

Wayne D. Beazer is vice president of McLean, Budden Limited in Toronto, Ontario.

Principal Statistics of Canadian Trusteed Pension Funds

	Assets ($ million)	% Increase (Over Prev. Yr.)	Employees Covered (000)	Number of Pension Funds
1969	10,003	—	1,719	4,072
1974	18,284	13.1	2,307	3,680
1975	21,210	16.0	2,416	3,622
1976	25,234	19.0	2,667	3,543
1977	29,737	17.8	2,757	3,403
1978	35,517	19.4	2,824	3,302

Table I

All figures at book value.

Book Value Versus Market Value Canadian Trusteed Pension Funds

(Millions of Dollars)

	Book Value	Market Value
1970	11,059	10,573
1973	16,171	16,303
1974	18,284	16,352
1975	21,210	19,841
1976	25,234	24,716
1977	29,737	29,538
1978	35,517	36,203

Table II

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Percentage Diversification of Assets

	1970	1974	1975	1976	1977	1978
Government Bonds	3.9%	1.9%	1.8%	2.5%	3.8%	4.7%
Provincial Bonds	26.0	26.1	25.1	25.2	25.7	25.3
Municipal Bonds	6.1	4.1	3.7	3.5	3.7	3.2
Corporate Bonds	12.9	14.8	15.9	15.2	14.5	12.8
Preferred Stock	0.6	0.4	0.4	0.3	0.2	0.2
Common Stock	21.0	20.9	21.5	20.6	18.5	18.6
Non-Cdn. Stock	5.2	2.9	3.3	3.8	3.0	3.1
Mortgages	9.5	11.5	12.1	13.5	13.6	13.1
Cash	6.4	9.4	8.6	7.3	8.8	10.8
Other	8.4	8.0	7.6	8.1	8.2	8.2
	100.0	100.0	100.0	100.0	100.0	100.0

Table III

All figures at market value as of 12/31.

Distribution of Assets "Mean" Cdn. Pension Universe

	1970	1974	1975	1976	1977	1978	1979	1980
	%	%	%	%	%	%	%	%
Cash	6.0	11.6	7.7	6.5	7.5	11.7	13.2	12.2
Bonds	30.6	27.7	32.0	33.4	35.3	35.1	34.2	35.3
Mortgages	12.4	13.3	14.2	16.5	18.3	18.1	15.5	13.6
Equities	51.0	47.4	46.1	43.6	38.9	35.1	37.1	38.9

All figures as of 6/30.

Table IV

Source: Wood Gundy Comparative Measurement Service

Although the figures in Table III substantiate this trend, perhaps a more sensitive barometer of Canadian pension asset distribution is the Wood Gundy Comparative Measurement Service. This service monitors approximately 600 Canadian pension funds. In their June 30, 1980, report, a study of their "median fund" distribution of assets provides information based on market valuations which may be more indicative of recent trends. (See Table IV.)

Clearly, Canadian investors have not shared the same enthusiasm for equities as their U.S. counterparts; however, a similarity does exist in the general trend of equity exposure.

One of the factors contributing to the distortion between the Wood Gundy mean equity exposure and the Statistics Canada figures is the inclusion in the Statistics Canada report of public sector funds. Of the 3,302 trusteed funds included in the Statistics Canada report, only 272 were in the public sector. Yet, while representing just over eight percent of all funds, the public sector covered nearly 44 percent of all pension plan members and held over 50 percent of total assets. Some of the large public sector funds are obliged to invest in government

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Employer-paid benefits rise, survey shows

The value of benefits provided to management-level employees in the private and public sectors rose to about 38 percent of their salaries in 1980, according to a survey of 216 major employers across Canada by Hay Associates. Based on March 1, 1980, responses, the survey covers industry, finance, and public service, and encompasses supervisors, managers, executives and specialists.

The increase in benefits paid by employers was only 1.2 percent over the same period in 1979, up to 33 percent. Employee contributions accounted for the other five percent increase in benefits. The 1980 level value of employer-paid benefits perquisites and time off with pay means if an employee's salary is, for example, $30,000 a year, the employer provides $10,000 worth of benefits on top of the salary.

Nearly 80 benefit items are canvassed in the survey, including stock option and bonus plans, company cars and allowances, disability plans and health care. The section on pensions also incorporates vesting provisions.

More than half the companies surveyed are based in Ontario. Seventy-two percent have 250 to 20,000 or more employees. Eighty-one percent have annual gross sales and operating incomes or budgets of $40 million to $500 million up.

Highlights of the survey show:

- Seventy-nine percent of the employers provide a dental plan in 1980, compared to 64 percent in 1979. In 99 percent of the plans, the employers pay for at least 50 percent of the cost.
- More than 30 percent of the employers offer pre-retirement counseling. Almost all of them help pay for employees' business-related educational courses, but only nine percent of them provide paid sabbatical leaves, generally for one year.
- Employers are providing and paying for more basic life insurance, survivor income benefits, accidental death and disability and travel accident coverage.
- Virtually all of the questioned employers offer three weeks vacation after one to five years' service, and 85 percent offer five weeks or more vacation.
- More than 90 percent provide paid days off for jury duty and bereavement. Less than half provide time off with pay for moving, paternity, or maternity leave.

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The Toronto Stock Exchange has been a stellar performer, almost tripling since the end of 1976.

bonds, hence the variance in equity exposure.

An outstanding feature of Canadian pension funds' investment activity in recent years is the lack of enthusiasm for common stocks despite a performance which has been particularly buoyant in the last 30 months. By comparison with the Dow Jones Industrial Average, the Toronto Stock Exchange has been a stellar performer, almost tripling since the end of 1976 when its composite average and the Dow were both at about 800. Admittedly, Canada's advantage for investors has been reduced by the devaluation of the Canadian dollar over this period, and the Dow gives an unfairly bleak picture of U.S. stocks' performance. Nevertheless, the Canadian market has shown a major recovery from the 1974-75 nadir which has recently taken it to new highs. It may, therefore, seem strange that the percentage invested by Canadian pension funds in equities has remained well below levels that are considered normal in the United States and that it appears likely that even some net selling of equities occurred in the year ending June 30, 1980. Taken at market value, the equity percentage of pension fund portfolios measured by Wood Gundy was still slightly under 40 percent at the middle of this year.

Explanations for this continuing tendency to hold down the equity percentage are numerous. An important source of strength for the equity market was the exploratory oil sector, and pension funds have often been reluctant to be heavily weighted in this category. The same can be said of gold shares. A number of traditionally emphasized groups, such as financial companies' shares, have achieved much less sparkling records, and this may have led to a downplaying of equities.

More generally, long-held anticipations of recession together with apprehension regarding a number of unfavorable and ongoing political developments have been discouraging influences. While taxpaying individuals were encouraged by the dividend tax credit to emphasize equities, and foreigners' interest was stimulated by growing instability in other parts of the world, pension funds lagged in participation in a booming market. The poor performance of bonds may, in time, change attitudes, but this has yet to be proved.

In 1975, we asked the question, "What areas will gain in importance?" At that time, it appeared that bonds and mortgages would emerge as the dominant asset classes in the second half of the '70's. As a percentage of total fund (Wood Gundy mean), fixed-income investments (bonds and mortages) increased from 41.0 percent on June 30, 1974, to 48.9 percent on June 30, 1980.

The flight out of equities following the 1974 market resulted in a defensive move into the supposedly less volatile bond market. The timing could not have been worse. Recently, a fixed-income manager was reportedly overheard saying that he was considering adding common stock to his bond portfolios to cut down on the volatility of his fixed-income portfolios.

In Canada, the dominant factor in the bond market has been the government of Canada, with an apparently insatiable appetite for new money. Between June, 1975, and June, 1980, the trend into fixed-income investments would have produced better results if it had been directed into the mortgage market. During this five-year period, the median mortgage portfolio has had a cumulative median return of 10.3 percent versus 8.8 percent for bonds (for five years ending June 30, 1980, Wood Gundy Comparative Measurement Service).

One reason for this phenomenon is that Canadian pension fund mortgage holdings are heavily weighted towards the five-year, rate renewable residential mortgage. Given that the decade of the 1970's was a period of rising interest rates, a significant portion of the better mortgage performance really resulted from their shorter average term against bond portfolios.

Table V shows that most trusteed pension funds in Canada have

(Continued on page 76)

Net Income (Summary of Income and Expenditures)
Trusteed Pension Funds

	Income		Expenditures	
	Employee/ Employer Contributions	Investment Income Realized Profit on Sale of Securities	Payments & Cash Withdrawals	Realized Loss on Sale of Securities & Other Exp.
		(Millions of Dollars)		
1970	1,054	571	503	116
1974	2,128	1,233	981	189
1975	2,727	1,383	1,104	186
1976	3,392	1,712	1,320	134
1977	3,920	2,185	1,512	173
1978	4,680	2,891	1,824	127

Table V

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Master trust — its future

(Continued from page 13)

will thrive, in terms of a competitive advantage.

The underlying feature of master trust is still the delivery of information relative to security processing and trust accounting. Those institutions who concentrate on delivering quality service will do well. Competent, hard-working trust account officers will always be necessary to answer the phone when a master trust customer calls. It is the responsiveness at this basic level that has brought today's recognized master trustees to their role of leadership in the industry.

Master trust will be around for a long time, and it will continue to develop new wrinkles. Getting back to the original question — perhaps it is best to let this service go without a precise definition. Otherwise, we will have to come up with new labels for the new services that will continually spring up from the vital roots of this concept. ☐

Seasoned mortgages

(Continued from page 16)

lateral trust certificates routes provided an acceptable way out. In both of these cases, as we pointed out earlier, the institution holding the old mortgages uses them as collateral to borrow fresh investment funds without any change in ownership of the collateral ever taking place. Since there is no change in ownership, no loss need be posted on the institution's books. It was the requirement to show the loss from the discounted sale of seasoned mortgages that killed many a prospective transaction in the past.

Obviously, the opportunities for the purchase of low-coupon seasoned mortgages are limited. On the one hand, there is little chance that mortgage rates are likely to fall again into the single-digit category. Further, mortgage lenders are turning increasingly to varied forms of renegotiable home loans to protect themselves against sharply higher interest costs in future years. It appears that the day of the long-term, level-rate home mortgage is rapidly drawing to a close, effectively eliminating the possibility of any significant number of deeply discounted seasoned below-market home loans in future years.

For these reasons, current opportunities to purchase older loans, carrying below-market coupons, at substantial discounts will not be in place long. Interested fund managers should, therefore, act as promptly as prudence permits. ☐

Update: Canadian funds

(Continued from page 28)

a positive cash flow despite the fact that ever-increasing numbers of members are drawing benefits under pension plans. The net cash flow into trusteed pension funds in 1978 was $5.6 billion. While the cost of providing benefits (payments and cash withdrawals) plus realized losses on the sale of securities reached a new high of nearly $2 billion in 1978, investment income alone was more than sufficient to cover this cost, thereby leaving all employee and employer contributions to be directed to the capital markets for further investment.

Roughly two-thirds of total income is accounted for by employee/employer contributions which can be directed to the capital markets. This significant emerging buying reserve for direction into securities could lead to higher equity ratios within Canadian trusteed pension plans in the 1980's. ☐

Ad Index

☐ American Financial Group C/2

☐ American Stock Exchange 27

☐ Bowers and Ruddy Galleries 49

☐ Carbray & Co. 45

☐ Comshare 7

☐ Crown Life Insurance 1

☐ Equifax Services 45

☐ The First Boston Corporation 15

☐ Honolulu Mortgage C/4

☐ Hopkins Development 50

☐ Don Howard Personnel 48

☐ International Foundation of Employee Benefit Plans 11,19

☐ Knight Enterprises 43

☐ Marinavest 29

☐ Mellon Bank C/3

☐ The Mitsubishi Bank of California 4

☐ Preferred Financial Corporation 47

☐ Radford Financial 23

☐ Real Estate Analysis of Newport 50

☐ Realty Holding Group 44

☐ State Street Boston 24

☐ Ralph C. Sutro Co. 3

☐ Tolley International Corporation 21

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Congressional pensions:
Exiting with a sweet carrot

by Roy A. Schotland and Martha Jo Wagner Paris

When Senator Frank Church (D-Idaho) leaves Congress at the end of 1980, his retirement benefits — starting in 1981, when he will be age 57 and eligible — will total $41,111 *per year.*[1] He has served 24 years in the Senate and four in the military. His pension will be 34 percent larger than the pension of a hypothetical general Federal employee with exactly the same service and salary, who would be entitled to $30,686 per year.

If ex-Senator Bill Brock (R-Tenn.) were to die now, before he is eligible to begin receiving his pension, his widow would be entitled to $10,125 *per year,* 55 percent of his $18,410 pension. He served eight years in the House, six in the Senate and three in the military. But a widow of a general Federal employee (again, assuming the same service and salary as Brock's) would be entitled to a mere refund of her spouse's contribution — only a single lump sum of about $38,569 — with *no* interest at all!

When Rep. John Murphy (D-N.Y.) leaves office at the end of 1980, when he will have served in nine Congresses or 18 years, he will immediately begin receiving a $31,406 *per year* pension. He will be 55 years old. A general Federal employee with less than 20 years' service cannot begin receiving a pension until age 62.

While general Federal employees can retire under few criteria, members of Congress can retire under many [5 U.S.C. §§ 8336(g), 8338(b)]:

1. age 62 with five years of service;
2. age 60 with ten years of member service;
3. ages 55 to 59 with 30 years of service;
4. age 50 with 20 years of service, including at least ten years of member service;
5. age 50 with service in nine Congresses; and
6. any age with 25 years of service.

Such differences in ages of eligibility mean (to go back to the example of Sen. Church) that the member not only receives a pension 34 percent larger than a general Federal employee, but begins receiving it three years earlier than could the general employee.

These are merely examples showing how uniquely generous is the pension plan for members of Congress. Why are a Congressional member's benefits so much larger and available so much earlier than a general Federal employee's? The differences in these benefits do not reflect differences in salaries, because all these examples assume a general Federal employee with the same salary as the Congressional member. Rather, the benefit differences reflect differences in the pension plans.

Are benefits that are that much better for members of Congress justified? To borrow the phrasing of Rep. Les Aspin (D.-Wisc.), who in August criticized what he deemed unduly generous retirement benefits for the Armed Forces, isn't this system "straining generosity a wee bit"?

It's not the Armed Forces, but members of Congress who have one of the most generous pension plans in the nation and the most generous plan for any government service. The Armed Forces' retirement plan was thoroughly reviewed by a particularly able Presidential Commission as recently as 1978. The plan for members of Congress has had no examination of any type since it began in 1946.

Despite the Congressional members' loudly professed cost-consciousness and special sensitivity about their own pay, there has *never* been any actuarial study, never *any* cost review, of the Congressional pension plan. The only rough estimate of its cost was made in 1946, before its enactment. And the sponsor of that 1946 "study" (done for Congress by the National Planning Association) testified: "[W]e went overboard in our recommendations here giving a preferential treatment to you folks relative to retirement, departing from all actuarial principles."[2]

---

[1] Participation in Congress's pension plan is voluntary. So far as we have been able to verify with the only information public, all or virtually all members of Congress do choose to participate, but we have not been able to verify whether any specific person — except for ten retired and eligible Senators — has chosen to participate. In light of the overwhelming likelihood of participation, it is reasonable to assume that each member is a participant. Our figures rest on public information about each named member and calculations done with the aid of a leading Fellow of the Society of Actuaries, whose aid is deeply appreciated.

[2] Testimony of Robert Heller, Hearings on S. 2177, Special Committee on the Organization of Congress, 79th Cong. 2d Sess., 859 (1946).

Roy A. Schotland is professor of law and Martha Jo Wagner Paris is a member of the Class of 1982 at Georgetown University Law Center, Washington, D.C. Appreciation is expressed by them to Victor R. Prince, GULC '83, for special aid in this study.

There has *never* been any actuarial study, never *any* cost review, of the Congressional pension plan.

Members of the Congress have better benefits because there are three key differences and at least three smaller ones between the Congressional members' pension plan and the general Federal employees' pension plan.

1. Members have a better pension formula than general Federal employees. That explains the 34 percent difference ($10,425 per year) between Sen. Frank Church's pension and the pension of the hypothetical general Federal employee with the same service and salary. The members' pension rate for each year of service is 2.5 percent of average "high-three-consecutive-years" salary, but the general Federal employees' rate ranges only from one and a half to two percent. Thus, Sen. Church gets a pension totaling 70 percent of his average salary, while the general Federal employee with the same salary and service would receive only 52 percent of his average salary. True, the members contribute slightly more, eight percent of salary, compared to the general Federal employees' seven percent. But, as noted below, the Congressional members' pension system costs the Government about 55 percent of payroll, so one percent more or less from members' contributions just doesn't matter. One striking, but not unusual, example of how relatively insignificant are the member's contributions is ex-Senator Eugene McCarthy, whose pension is worth about $909,000 but whose own contributions plus interest totaled only $124,471.

2. Members' spouses have much better protection. That is clear from the difference between the treatment of Mrs. Bill Brock and the widow of a general Federal employee.

3. Members can retire with a pension after briefer service. Members who are 60 or older can retire on a pension after only *ten* years of member service and begin immediate benefits. A general employee needs *20* years of service to retire at age 60. A member with 25 years of service can — voluntarily or by courtesy of his dissatisfied constituents — retire at any age. In contrast, a general employee with 25 years' service can begin immediate benefits only if leaving involuntarily or "voluntarily during a major reorganization."

There are also at least three smaller "sweeteners" distinguishing the members' plan from the general Federal employees' pension plan.

1. The member's benefit ceiling is higher. The member's pension is limited to 80 percent of the *highest* pay received, but a general Federal employee's limit is 80 percent of the employee's *average* pay in the highest three consecutive years.

2. The member's salary is higher. In 1980, it is $60,662. Of the several million Federal employees, only *40* earn as much or more than the Congressional members: the President, Vice President, and the Secretaries and Deputy Secretaries. So our comparative examples, figured as if a general Federal employee earned as much as a member, vastly understate the actual pension benefit difference between equally dedicated public servants with equal length of service. Of course, there are sound reasons for paying members of Congress more than almost any other Federal "servants," and there may also be sound reasons for higher pension benefits. But how much higher is sound?

3. After leaving service and beginning to receive pension benefits, if an ex-member of Congress is appointed to a new Federal post, he earns new benefits much sweeter than would a general Federal employee who also had retired and later re-entered, even though the ex-member and the ex-general employee might be in precisely the same level job (or even the very same job, but, of course, at different times). The re-entering ex-general employee would earn no new benefits unless he stays in service more than one year from re-entry, but the ex-member would start earning new benefits from his first day back. Further, the ex-member enjoys his old benefit accrual rate of two and one-half percent of pay, but the ex-general employee earning the very same pay for the very same work has an accrual rate of two percent at most, possibly only 1.75 percent. An ex-general employee could have almost twice as much previous service as an ex-member's five years' previous service, but would accrue at 1.75 percent while his ex-member colleague at the next desk was accruing at 2.5 percent. Still further, if Federal pensions were improved between the time the two re-entrants retired and the time they came back, then the ex-member would enjoy the new improvements immediately upon re-entry, but the ex-general employee would have to work at least five years from re-entry before the new improvements would apply to him.

In addition, there is one minor difference which is less favorable for members. Persons retiring and beginning to receive their pensions before age 60 with less than 30 years' service get reduced pensions, with members' being reduced slightly more than general Federal employees'. For example, a member who left Congress at age 50 and started on his pension would have a 15 percent reduction, whereas a general Federal employee in the same situation would have a ten

	Column A[1]	Column B-1	Column B-2	Column C[1]	Column D	Column E	Column F	Column G
	Benefits Age 62 With Survivor Option	Benefits Age 62 Without Survivor Option	Hypothetical General Federal Employee's Benefits With Same Service & Salary	If They Took Benefits at Earliest Age Eligible Without Survivor Option	Contributions (including interest)	Value of Pension Without Survivor Option	Value of Pension With Survivor Option	Ratio of Member's Contributions (including interest) to Government's Cost[4]
Senators-Active								
Goldwater, Barry, Sr.[2] (R.-Ariz.) 24 yrs.[3] Born 1909	$37,270 as of 1980	$41,111 as of 1980	$30,686	Would receive $41,111 in 1981	$144,631	$372,000	$ 427,000	1:1.6 (1:1.9)
Byrd, Harry Flood, Jr. (Ind.-Va.) 15 yrs. Born 1914	$20,092 as of 1980	$22,024 as of 1980	—	Would receive $22,024 in 1981	$ 97,397	$247,000	$ 284,000	1:1.5 (1:1.9)
Church, Frank[2] (D.-Id.) 24 yrs., Born 1924	$37,270 as of 1980	$41,111 as of 1980	$30.686	Would receive $41,111 in 1981	$146,927	$672,000	$ 773,000	1:3.6 (1:4.3)
Senators-Retired								
Scott, Hugh (R.-Pa.) Born 1900 1941-44, 1947-76, 34 yrs.	Receiving: $52,128	Receiving: $57,507	—	Receiving: $57,507	$181,253	$567,000	$ 652,000	1:2.1 (1:2.6)
McCarthy, Eugene J. (D.-Minn.) 1949-1970, 22 yrs. Born 1916	Receiving: $23,342	Receiving: $25,566	$18,710	Receiving: $41,219	$124,471	$909,000	$1,045,000	1:6.3 (1:7.4)
Smathers, George A. (D.-Fla.) 1947-1968, 22 yrs. Born 1913	Receiving: $28,171	Receiving: $30,809	$20,216	Receiving: $43,934	$132,673	$999,000	$1,149,000	1:6.5 (1:7.6)
Brock, Bill[2] (R.-Tenn.) 1963-1976, 14 yrs. Born 1930	$16,839 as of 1976	$18,410 as of 1976	$13,103	Would receive $18,410 in 1990	$ 93,244	$128,000	$ 147,000	1:0.4 (1:0.6)
Tunney, John V.[2] (D.-Calif.) 1965-1976, 12 yrs. Born 1934	$14,890 as of 1976	$16,244 as of 1976	$11,371	Would receive $16,244 in 1996	$ 75,756	$ 76,000	$ 96,000	1:0.0 (1:0.3)
Mondale, Walter[2] (D.-Minn.) 1965-1976, 12 yrs. Born 1928	$13,915 as of 1976[5]	$15,161 as of 1976	$10,504	Would receive $15,161[5] in 1988	$ 87,732	$123,000	$ 141,000	1:0.4 (1:0.6)
Nixon, Richard M. (R.-Calif.) 1948-1953, 6 yrs. Born 1913	Receiving: $ 3,828[5]	Receiving: $ 3,924[5]	$ 3,318	Receiving: $ 3,924[5]	$ 27,401	$ 64,000	$ 74,000	1:1.4 (1:1.7)
Tydings, Joseph D.[2] (D.-Md.) 1965-1970, 6 yrs. Born 1928	$ 7,045 as of 1970	$ 7,528 as of 1970	—	Would receive $ 7,528 in 1990	$ 47,253	$ 49,000	$ 56,000	1:0.0 (1:0.2)
Representatives								
Bolling, Richard (D.-Mo.) 32 yrs. Born 1916.	$43,947	$48,530	$41,258	Would receive $48,530 in 1981	$181,685	$588,000	$ 676,000	1:2.2 (1:2.7)
Rhodes, John (R.-Ariz.) 28 yrs. Born 1916.	$48,071	$53,112	—	Would receive $53,112 in 1981	$182,796	$643,000	$ 740,000	1:2.5 (1:3.0)
Anderson, John (R.-Ill.) 20 yrs. Born 1922.	$29,342	$32,302	$23,689	Would receive $31,656 in 1981	$120,766	$483,000	$ 555,000	1:3.0 (1:3.6)
Murphy, John (D.-N.Y.) 18 yrs. Born 1926.	$30,663	$33,770	—	Would receive $31,406 in 1981	$109,086	$549,000	$ 632,000	1:4.0 (1:4.8)
Crane, Phil (R.-Ill.) 12 yrs. Born 1930.	$18,470	$20,556	—	Would receive $20,556 in 1990	$ 72,160	$143,000	$ 164,000	1:1.0 (1:1.3)
Aspin, Les (D.-Wisc.) 10 yrs. Born 1938.	$17,448	$19,087	$13,067	Would receive $19,087 in 1998	$ 57,213	—	—	—
Fisher, Joseph (D.-Va.) 6 yrs. Born 1914.	$12,163	$13,214	—	Would receive $13,214 in 1981	$ 31,929	—	—	—
Spellman, Gladys Noon (D.-Md.) 6 yrs. Born 1918.	$ 8,199	$ 8,810	$ 5,433	Would receive $ 8,810 in 1981	$ 31,929	$147,000	$ 162,000	1:3.6 (1:4.1)
Stockman, David A. (R.-Mich.) 4 yrs. Born 1946.	$11,189[6]	$12,132[6]	—	Would receive $12,132[6] in 2008	—	—	—	—

[1] Explanations of calculations are available from the authors.

[2] Member not yet receiving benefits because not yet retired or not yet 62 years old.

[3] Years of Congressional service through 1980, not total creditable service, e.g. military.

[4] The first ratio is for pension without survivor option, the second (in parentheses) is with survivor option. A 1:1 ratio means that Member and Government each paid half.

[5] Benefits from Presidency and Vice-Presidency excluded.

[6] This calculation assumes:
1) Re-Election in 1980.
2) Serves during the entire 97th Congress.
3) No increase in Member salaries or contributions through 1982.

Almost ten percent of Congress are already double-dipping at direct taxpayer expense.

percent reduction; however, the general employee could start on his pension before age 55 only if he left "voluntarily during a major reorganization" of his agency, or left involuntarily.

What is the case for giving members of Congress better pensions? One policy consideration that does *not* explain the difference, is the members' possible short tenure. If short tenure were the key, then one would expect Cabinet officers to be treated as the members of Congress are. Cabinet officers serve at the will of the President, just as Congressional members serve at the will of the people. In fact, a Cabinet officer's employment is even less stable than a Congressional member's, for a Cabinet officer has no set term, whereas a member has either a two-year House term or a six-year Senate term. If short tenure in office is a concern, Cabinet officers should not be lumped into the general Federal pension plan — but they are.

A current concern which probably does explain some of the superiority of Congress' pensions is the need to give members who are no longer productive an incentive to leave. If an unusually attractive pension will ease non-productive members out of Congress, the country is undoubtedly better off paying for that carrot and replacing the non-productive person with a livelier new member. But does the members' pension system need to be as sweet as it is to help the dead-wood find its way to the exit?

The appealing picture of the old member, worn out by years of Congressional service and dependent upon a Congressional pension, is mostly myth. Once it was true. Former Speaker Joe Martin wrote of his own vote against Congressional pensions back when Bankhead of Alabama (father of Tallulah), was Speaker. Later, on the day that Martin had spoken against the pension proposal, Speaker Bankhead talked privately with him:

> I'm sorry you did that, Joe. That bill was needed badly. Take my own case. I've put in years in the House. I have no law practice left. If I lost my seat, I'd be broke without a pension. That would be my lot for serving the country.

"On relection," Joe Martin decided he'd been wrong, and when the proposal was up again in 1946, he "supported it enthusiastically."[3]

That appealing, even poignant picture, is faded. Today's members' usual career pattern assures ample income and, most likely, one and probably even two additional pensions. As one recent study concluded, "The number of Representatives leaving in mid-career has risen dramatically in the last decade. The House has become more of a stepping-stone — either to higher office or to a policy-making job outside of government" (*Congressional Quarterly*, Jan. 12, 1980, pp. 79-80).

In 1978, the average age of exiting Congressmen was 54, and of Senators, 59. Only four years earlier, the average exiting Congressman was two years older and the average exiting Senator was six years older. Similarly, the average entering Congressman in 1979 was 49 years old, but in 1961 was 52; and in 1979, the average entering Senator was 53, but in 1961 was 57. (Nor are these years exceptions. The trend since 1961, the earliest year for which we found such data, is steadily toward a younger Congress.)

By no means do we deplore the youth movement in Congress. Today, however, the fact remains that members have some other career before entry, the great majority of them building up at least one pension then. Indeed, 33 currently active members are already receiving pension benefits from state or city governments, and another 15 currently active members are already receiving military retirement pensions. For example, in addition to their current Congressional pay of $60,662, Senator Cranston receives each year $35,703.19 from a California state pension and Rep. Glenn Anderson of California receives $28,681, each year. Eleven other sitting members also currently receive over $10,000 each, per year, from state or municipal government pensions.[4]

Doubtless, many more members of Congress will have such pensions coming to them when they are older. Military retirement pay gives $15,888 per year to Senator Cannon (D-Nev.) and $12,804 to Senator Goldwater (R-Ariz.), as well as substantial amounts to 13 other sitting members.[5]

In short, almost ten percent of Congress are already double-dipping at direct taxpayer expense.

After leaving Congress, most members have a third career, often enjoying particularly significant jobs because of having been in Congress — and also coming into a third pension! For all the fuss we hear about double-dipping, the odds are that many members of

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[3] Martin, *My First 50 Years in Politics*, as told to Robert J. Donovan (Greenwood Press, 1960), p. 248.

[4] Press release of National Taxpayers Union, Oct. 24, 1980.

[5] *Chicago Tribune* story on National Taxpayers Union release, Sept. 14, 1980, § 2.

No disability pay is counted here.

Reps. John Rhodes (R-Ariz.) and G. V. Sonny Montgomery (D-Miss.) are entitled to military retirement pay but voluntarily decline it.

What is needed is an actuarial study of this system and its costs.

Congress not only have their uniquely rich Congressional pensions, but are triple-dippers!

These few examples show just how sweet the members' benefits are. Full information on the benefits of eight retired Senators, three active Senators, and nine active members of the House is found in the accompanying chart. It has been verified that all the eligible retired Senators are now receiving benefits; further information about the other members studied was unavailable. While the sample in the chart is not a random one proving a precise proposition, it does include a range of length of tenure and a balance between the two parties.

The pension data presented here are truly a representative indication of just how rich these pensions are. One could present similar data on a larger sample or an utterly random one, but such ventures would have the same strengths and weaknesses as this sample.

What is needed is an actuarial study, with full information available to it. No one knows how much these benefits cost. The rough estimate used when this system was enacted in 1946 was that pensions would cost the Government about 45 percent as much as salaries.[6]

Since 1946, although the contribution rate has been raised slightly, benefits have been much improved, especially by the very costly indexing to changes in the consumer price index; Congressional turnover has changed; and, of course, life expectancy has increased; all of which means that a pension is worth more now and so costs more now. It has been actuarially estimated that the members' pensions currently cost the Government about 55 percent of payroll. Using that figure, today's cost to the Government comes to $17.9 million per year.[7] The members' contributions total only $2.6 million per year (assuming that every member has chosen to participate; while participation is voluntary, it also is obviously attractive). The taxpayers, then, are paying $17.9 million per year just for members' pensions, or seven times as much as the members pay. That cost, indeed this whole paper does not include the approximately 20,000 Congressional employees whose pensions are more like the members' than like general Federal employees.

The surest step to take is to secure, forthwith, an actuarial study of this system and its costs. After that, then what steps? Perhaps the members' separate pension scheme costs so much that it ought to be terminated and the members of Congress treated just like general Federal employees. If the general Federal pension plan is beneficial enough for Cabinet officers, why isn't it beneficial enough for Congressional members? At least, some of the members' special embellishments could be eliminated, and the cost to members could be increased to reflect more accurately the actual worth of the pensions.

Perhaps, members' pay and pensions should be indexed *inversely* to the consumer price index, as Jeffrey Nichols, chief economist of Argus Research Corp., suggested recently.

Probably, some recognition of the shorter — and more precarious — tenure of members is appropriate, rather than simply lumping members in with general civil service.

But recognizing differences does not warrant hidden, richly self-serving largesse, with no concern about costs. Anyone watching Congress at all in the past four years knows how acute is the concern to cut Federal spending. For Federal employees' pensions, in 1980, this led to near-reversal of the twice-a-year cost-of-living increase for Federal retirees, a *reduction* that may well be enacted once the election hurdle is past. For the private pension area, 1980 has seen passage of the first amendments to the Pension Reform Act of 1974 ("ERISA"), amendments which pave the way for *reducing* the pension benefits of many members of multi-employer (or "union") pension funds. For all employees covered by Social Security, benefits payable over the long run were *reduced* in 1977 and "contributions" were greatly increased. Yet, the sweetest retirement scheme on the scene continues untouched, its costs rising with inflation; its participants' contributions ever more unrelated to costs.

Members of Congress enjoy many "perqs." At least with the other perquisites, we know what the costs are, and we can evaluate whether the perqs are warranted or are merely piggish self-help. Can we leave the cost of members' pensions in limbo? ☐

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[6] S. Rpt. 1400, 79th Cong. 2d Sess. (1946), at 8.

[7] The figures in this study are the best possible estimates. If complete information and full actuarial resources were available, the 55 percent cost figure, to take one key item, might be even higher or, of course, slightly lower. (It would not be much lower because the Civil Service Retirement System Board of Actuaries has shown that the general Federal employees' pension system costs the Government just under 35 percent of payroll, and the Congressional members' system obviously is sweeter and so more costly.) The work here has been reviewed by three leading actuaries, and its substantial accuracy is clear. If there are minor inaccuracies, a full actuarial study would correct them.

5th Annual Directory of Master and Directed Trust Services

Master Trust continues to be defined in individual ways by the banks and trust companies offering them. Because of this, figures gleaned in a survey are not always comparable. The information in the directory that follows was provided to us by the banks and trust companies listed.

Although a sizable portion of those firms offering master and directed trust services are presented here, we recognize that the list is not exhaustive. Unfortunately, some questionnaires were never returned, others were received too late to be included, and others were declared too incomplete for use.

We appreciate the help given us in presenting this directory — both by the persons who completed and returned their questionnaires and by those who helped us in the revision and structuring of the questionnaire. We hope that each year's directory will continue to be more complete and inclusive.

Name and Address of Bank	Number of Separate Master Trust Clients	Number of Directed Trust Clients	Master Trust Assets (in millions)	Directed Trust Assets (in millions)	Custodial Assets (in millions)	Total Employee Benefit Assets (in millions)
American Bank and Trust Company of Pennsylvania **35 North Sixth Street** **Reading, PA 19601** **Contact:** Richard A. Hartley/ V.P. & E.B.O. 215/375-5570	1	40	$42	$20	$100	$250
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement					
American Trust and Savings Bank **Town Clock Plaza** **Dubuque, IA** **Contact:** James Cooney/T.O. 319/582-1841	84	30	$15.4	$14	$.2	$30.0
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement					
AmeriTrust Company **900 Euclid Avenue** **Cleveland, OH 44101** **Contact:** Robert C. Gebauer/ V.P. 216/687-5750	21	13	$1,000	$200	$100	$2,800
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement, Risk analysis/Universe ranking					
Bank of America NT & SA **555 California Street** **San Francisco, CA 94103** **Contact:** John P. Sheehy/ G.V.P. 415/622-2003	39	Approx. 400	$7,800	$2,000	$3,800	$13,000*
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement, Index fund (capability), Market inventory fund (capability), Natural resources funds *9/30/80 reporting date.					
Bank of Idaho **P.O. Box 5757** **Boise, ID 83705** **Contact:** Art McConnell/ T.O. 208/336-0300 ex. 273	0	12	0	$69	$1.5	$75
	Services Provided: Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement					
Bank of New Mexico **P.O. Box 1830** **Albuquerque, NM 87103** **Contact:** R. H. Vodian/V.P. 505/766-6330	80	15	$3.7	$2	$9	$14.7
	Services Provided: Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement					
Bank of New York **48 Wall Street** **New York, NY 10015** **Contact:** John A. Cook/ V.P., E.B.T. 212/530-1784	12	32	$1,350 (combined)			$2,350
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement, Asset allocation model, Investment strategy overview, International fixed-income management					

Number of Portfolios Maintained	Average Number of Accounts per Account Supervisor	Average Number of Accounts per Investment Mgr. Contact	Accounting System Utilized	Fail Float Credit	Short-Term Instruments Used	Date Interest on Short-Term Fund Credited	Timeliness of Reporting Package
300	60	N/A	Actual delivery date	—	Treasuries, Repurchase agreements, Master notes, Cash Asset Fund, Commercial paper	C.A.F. — monthly, Master Note — monthly, others on term	—
Crediting Dividend and Interest Policy: Computer program when funds received.							
Fee Structure: Based on asset value only.							
114	57	38	Contractual settlement date	No	Federated cash mgmt. system funds, Treasury securities, Savings acct.	Daily, semi-annual maturity, quarterly (respectively)	Daily balances with monthly, quarterly or annual reviews
Crediting Dividend and Interest Policy: On cash basis; computer maps generated in anticipation of receipt and allocation.							
Fee Structure: Based on asset value only.							
90	7	25	Contractual settlement date, actual delivery date	Yes	STIF, Variable demand notes, CD's, T-bills, Commercial paper, Reserve fund consisting of one to three year gov't & agency issues, valued twice a month	Month-end	Three to five days after month-end
Crediting Dividend and Interest Policy: On payable date.							
Fee Structure: Based on asset value only.							
over 3,000	3-150**		Trade date, contractual settlement date with pending adjustment, contractual settlement date, or actual delivery date, as desired by client	Not reported	STIF, Master notes, CD's, T-bills, Commercial paper, Repo's	As of next day, on monthly basis	Meets client specification
Crediting Dividend and Interest Policy: Not reported.							
Fee Structure: Based on asset value, individual services performed, or negotiated flat quote.							
**Based on complexity.							
81	80	4	Actual delivery date	No	Republic master note, Dreyfus money market instruments	Second business day of month	Fifth business day
Crediting Dividend and Interest Policy: On payment day.							
Fee Structure: Based on asset value only.							
3 bank E.B.T. funds	20	30	Trade date	Yes	STIF, short-term gov't obligations, major bank CD's	Weekly	Period-end plus ten days
Crediting Dividend and Interest Policy: Automatic by computer on pay date.							
Fee Structure: Based on individual services performed.							
71	10	2	Trade date, actual delivery date*	Yes	Master note, Short-term liquid asset fund	Payable date	Five to 15 business days
Crediting Dividend and Interest Policy: Cash, on payable date.							
Fee Structure: Based on asset value and based on individual services performed, as negotiated.							
*Flexible system; reports generated on trade date or delivery date, as required.							

<table>
<tr><th>Name and Address of Bank</th><th>Number of Separate Master Trust Clients</th><th>Number of Directed Trust Clients</th><th>Master Trust Assets (in millions)</th><th>Directed Trust Assets (in millions)</th><th>Custodial Assets (in millions)</th><th>Total Employee Benefit Assets (in millions)</th></tr>
<tr><td rowspan="2">Bank of Oklahoma, N.A.
P.O. Box 2300
Tulsa, OK 74192
Contact: James R. Dodd/ V.P. & S.T.O.
918/588-6448</td><td>2</td><td>15</td><td>$42</td><td>$91</td><td>$41</td><td>$715</td></tr>
<tr><td colspan="6">Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement, Automatic cash management, Utilization of GIC's</td></tr>
<tr><td rowspan="2">Bankers Trust Company
280 Park Avenue
New York, NY 10017
Contact: Stephen G. Fredericks/V.P.
212/775-2500</td><td>67</td><td>103</td><td>$14,900</td><td>$1,000</td><td>$50</td><td>$36,000</td></tr>
<tr><td colspan="6">Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement, Index fund, Market inventory fund, Asset/liability forecasting, Investment policy and objective setting, GIC analysis, Portfolio diagnostics, MPT tools and services, Contribution allocation, Research and analysis, Manager structure analysis, General consulting (writing fundamental investment plans)</td></tr>
<tr><td rowspan="2">Bishop Trust Company, Ltd.
P.O. Box 2390
Honolulu, HI 96804
Contact: Daniel P. Zaehring/ V.P. & Mgr.
808/523-2111</td><td>68</td><td>200</td><td>$40</td><td>$30</td><td>$110</td><td>$180</td></tr>
<tr><td colspan="6">Services Provided: Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement</td></tr>
<tr><td rowspan="2">Boston Safe Deposit & Trust Company
One Boston Place
Boston, MA 02106
Contact: Patricia A. Carr/ V.P.
617/722-7000</td><td>13</td><td>68</td><td>$5,900</td><td>$200.6</td><td>$100</td><td>$6,200</td></tr>
<tr><td colspan="6">Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement, Asset allocation</td></tr>
<tr><td rowspan="2">California First Bank
Pension Trust Division
530 "B" Street
San Diego, CA 92101
Contact: Horace B. Benjamin/ V.P.
714/294-4504</td><td>0</td><td>706</td><td>0</td><td>$157.8</td><td>$157.8*</td><td>$193.8</td></tr>
<tr><td colspan="6">Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement, Design, installation and submission of employee benefit plan to governmental agencies
*Consider Directed and Custodial assets as the same.</td></tr>
<tr><td rowspan="2">Central Fidelity Banks, Inc.
Third and Broad Streets
Richmond, VA 23219
Contact: George T. Jamerson/ V.P.
804/782-4266</td><td>0</td><td>15</td><td>0</td><td>$57</td><td>$80</td><td>$230</td></tr>
<tr><td colspan="6">Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement</td></tr>
<tr><td rowspan="2">Central Penn National Bank
Five Penn Center Plaza
Philadelphia, PA 19102
Contact: Thomas A. Campbell/ T.O.
215/854-3058</td><td>0</td><td>8</td><td>0</td><td>$16.3</td><td>$68.6</td><td>$118</td></tr>
<tr><td colspan="6">Services Provided: Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement</td></tr>
</table>

Number of Portfolios Maintained	Average Number of Accounts per Account Supervisor	Average Number of Accounts per Investment Mgr. Contact	Accounting System Utilized	Fail Float Credit	Short-Term Instruments Used	Date Interest on Short-Term Fund Credited	Timeliness of Reporting Package
25*	5	8	Trade date, Contractual settlement date with pending adjustment	No	STIF, Master notes, Money funds, Commercial paper, T-bills CD's	Second business day of month	By 12th of month
Crediting Dividend and Interest Policy: Automatic computer credit on payable date. **Fee Structure:** Based on asset value, individual services performed, or combination. *Master and Directed Trusts.							
1200	15*	10	Full trade date; full contractual settlement date	Yes	Master notes, Commercial paper, CD's/time deposits, U.S. gov't & Federal agency issues	Credited monthly based on avg. daily balance for preceding month	Daily Reports — one day, Transactions and Holdings Reports — three to five days, Equitable Share Reports — 18 days, Performance Reports — 14 days
Crediting Dividend and Interest Policy: In Fed funds on payable date. **Fee Structure:** Not reported. *Account relationships per relationship manager.							
65	150	38	Contractual settlement date with pending adjustment	—	Money market fund, Commercial, paper, Repo's, CD's	Maturity date	Transactions — third business day, Asset Value Reports — tenth business day of next month
Crediting Dividend and Interest Policy: Not reported. **Fee Structure:** Based on individual services performed.							
393	10	37	Trade date plus actual settlement date	Not applicable	Boston Safe-managed STIF, Boston Safe Money Desk	Monthly	Mailed five days after receipt of necessary information
Crediting Dividend and Interest Policy: On payable date. **Fee Structure:** Based on asset value, individual services performed, number of plans and portfolios, or a combination of factors.							
764	127	19	Contractual settlement date	No	STIF, Master notes	Last business day of each month	By second or third week of month following client designated month-end
Crediting Dividend and Interest Policy: Credited to trust account on payable date. **Fee Structure:** Based on individual services performed or negotiated flat quote.							
60	55	20	Contractual settlement date	—	Federated investors, CFB note, temporary fund	Tenth of month	14 days after period-end
Crediting Dividend and Interest Policy: On payable date. **Fee Structure:** Based on individual services performed.							
335	117	27	Purchases — contractual settlement date; Sales — actual delivery date	No	Pooled variable note, due on demand, Money market fund	First business day of month	All reports mailed within three business days of period-end
Crediting Dividend and Interest Policy: Dividend paid on receipt; interest paid when due. **Fee Structure:** Based on asset value, individual services performed or flat quote.							

Name and Address of Bank	Number of Separate Master Trust Clients	Number of Directed Trust Clients	Master Trust Assets (in millions)	Directed Trust Assets (in millions)	Custodial Assets (in millions)	Total Employee Benefit Assets (in millions)
Chase Manhattan Bank **1211 Avenue of the Americas** **New York, NY 10036** **Contact:** Edward Madden/V.P. 212/730-3110	68	204	$20,000*	$4,000	$26,000	$26,000
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement, Index fund, Market inventory fund, Income projections *9/30/80 reporting date.					
Chemical Bank **30 Rockefeller Plaza** **New York, NY 10020** **Contact:** Gene J. Mastro/A.V.P. 212/621-2550	32	130	$4,500	$1,700	$12,000	$12,000
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement, Index fund, Market inventory fund, Securities lending, Monitoring and consulting					
Citibank, N.A. **One Citicorp Center** **New York, NY 10043** **Contact:** Kenneth J. Hunt/V.P. 212/559-9895	125 (combined)		$20,000 (combined)		$110,000	$130,000
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement, Index fund, Market inventory fund, Securities lending					
Citizens & Southern National Bank **P.O. Box 4114** **Atlanta, GA 30302** **Contact:** R. Schweitzer/V.P. 404/581-4018	11	43	$530	$272	$150	$2,500
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement, Pension/profit-sharing pooled funds					
Citizens Commercial & Savings Bank **One Citizens Banking Center** **Flint, MI 48502** **Contact:** Joseph A. Lemelin/A.V.P. & T.O. 313/766-7679	0	0	0	0	$181	$293
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement					
Citytrust **961 Main Street** **Bridgeport, CT 06602** **Contact:** Peter E. Bowles/V.P. & T.O. 203/384-5243	4	10	$36	$30	$6	$150
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement, 5500 forms, Guaranteed contracts					
Commerce Bank of Kansas City **Tenth and Walnut** **P.O. Box 248** **Kansas City, MO 64141** **Contact:** Joseph A. Burkart, II/V.P., E.B.D. 816/234-2572	3	100	$50	$300	$300	$630
	Services Provided: Performance measurement, Portfolio analysis, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement					

<table>
<tr><th>Number of Portfolios Maintained</th><th>Average Number of Accounts per Account Supervisor</th><th>Average Number of Accounts per Investment Mgr. Contact</th><th>Accounting System Utilized</th><th>Fail Float Credit</th><th>Short-Term Instruments Used</th><th>Date Interest on Short-Term Fund Credited</th><th>Timeliness of Reporting Package</th></tr>
<tr><td>843</td><td>4-10</td><td>Varies</td><td>Trade date, contractual settlement date with full accrual</td><td>Yes</td><td>International short-term fund, Master notes, CD's, T-bills, Commercial paper, Pooled short-term investment funds</td><td>Same day</td><td>Ten business days</td></tr>
<tr><td colspan="8">Crediting Dividend and Interest Policy: Same day, available funds.
Fee Structure: Transaction-based with individual services option.</td></tr>
<tr><td>145-150</td><td>25-30</td><td>N/A</td><td>Trade date, contractual settlement date</td><td>Yes</td><td>Chemical Bank Commingled STIF</td><td>First of month for preceding month</td><td>Ten to 15 days after period-end</td></tr>
<tr><td colspan="8">Crediting Dividend and Interest Policy: Credited to trust on payable date.
Fee Structure: Based on asset value only.</td></tr>
<tr><td>N/A</td><td>10-15</td><td>N/A</td><td>Contractual settlement date with full accrual</td><td>Yes</td><td>STIF, Master notes, CD's, T-bills, Commercial paper, Repurchase agreements</td><td>End of month</td><td>Summary of transactions within five to seven days of first of month</td></tr>
<tr><td colspan="8">Crediting Dividend and Interest Policy: On payable dates, available funds.
Fee Structure: Based on individual services performed.</td></tr>
<tr><td>450</td><td>110</td><td>15</td><td>Actual delivery date</td><td>No</td><td>Cash Management Fund managed by C&S</td><td>Daily earnings posted weekly</td><td>Daily with 24 hour lag; monthly statements within 72 hours</td></tr>
<tr><td colspan="8">Crediting Dividend and Interest Policy: Immediate credit to account on due date.
Fee Structure: Investments — based on asset value only; Plan Administration — based on individual services performed.</td></tr>
<tr><td>643</td><td>155</td><td>155</td><td>Contractual settlement date with pending adjustment</td><td>No</td><td>Money market fund, CD's, Commercial paper</td><td>Last of month</td><td>On line real time</td></tr>
<tr><td colspan="8">Crediting Dividend and Interest Policy: Upon receipt.
Fee Structure: Based on asset value and individual services performed.</td></tr>
<tr><td>220</td><td>73</td><td>44</td><td>Trade date</td><td>Not currently although in development</td><td>Commercial paper, Treasuries, monthly and daily short-term money market funds</td><td>Daily</td><td>As frequently as monthly provided within two weeks after closing</td></tr>
<tr><td colspan="8">Crediting Dividend and Interest Policy: Credit trust account when actually received.
Fee Structure: Based on asset value and individual services performed.</td></tr>
<tr><td>75</td><td>100</td><td>25</td><td>Trade date, contractual settlement date with pending adjustment</td><td>No</td><td>Master notes, Liquid Asset Fund, Short-Term Gov't Securities Fund, open market purchases of CD's, Commercial paper, Gov't notes</td><td>Once a month</td><td>MT — by tenth calendar date, DT — 15th of month</td></tr>
<tr><td colspan="8">Crediting Dividend and Interest Policy: Automatic income release on pay date.
Fee Structure: Based on asset value and activity; negotiated flat quote is available.</td></tr>
</table>

<table>
<tr><th>Name and Address of Bank</th><th>Number of Separate Master Trust Clients</th><th>Number of Directed Trust Clients</th><th>Master Trust Assets (in millions)</th><th>Directed Trust Assets (in millions)</th><th>Custodial Assets (in millions)</th><th>Total Employee Benefit Assets (in millions)</th></tr>
<tr><td rowspan="2">The Commonwealth National Bank
Box 1010
Harrisburg, PA
Contact: William C. Miles/ V.P., E.B.Mgr.
717/780-3007</td><td>5</td><td>5</td><td>$30</td><td>$30</td><td>$40</td><td>$160</td></tr>
<tr><td colspan="6">Services Provided: Performance measurement, Participant recordkeeping, Benefit disbursement</td></tr>
<tr><td rowspan="2">Continental Illinois National Bank & Trust Company
231 South LaSalle Street
Chicago, IL 60693
Contact: Anthony P. Wilson/ V.P., Mktg.
312/828-7007</td><td>24</td><td>65</td><td>$2,100</td><td>$1,800</td><td>$225</td><td>$7,300</td></tr>
<tr><td colspan="6">Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement, Index fund, Real estate fund, Asset liability projection</td></tr>
<tr><td rowspan="2">Crocker National Bank
111 Sutter Street, 20th Floor
San Francisco, CA 94104
Contact: Stephen McDonald/ S.V.P. & Mgr., E.B.T.
415/477-3133</td><td>14</td><td>N/A</td><td>$3,400</td><td>*</td><td>$4,800</td><td>$6,600</td></tr>
<tr><td colspan="6">Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement, Cash management, Combined reporting, Options trading, Securities lending, Commingled real estate equity and foreign equity funds
*Included in custodial asset value.</td></tr>
<tr><td rowspan="2">Fiduciary Trust Company of New York
Two World Trade Center
New York, NY 10048
Contact: Peter V. Haight/ V.P.
212/466-4100</td><td>2</td><td>30</td><td>$180</td><td>$214</td><td>$394</td><td>$950</td></tr>
<tr><td colspan="6">Services Provided: Performance measurement, Portfolio analysis, Portfolio review, ERISA disclosure assistance, Benefit disbursement</td></tr>
<tr><td rowspan="2">First Bank, Duluth, N.A.
306 West Superior Street
Duluth, MN 55801
Contact: Thomas F. Beaupre/ T.O.
218/727-3301</td><td>1</td><td>8</td><td>$36</td><td>$20</td><td>$5</td><td>$150</td></tr>
<tr><td colspan="6">Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement</td></tr>
<tr><td rowspan="2">First City Bank of Dallas
P.O. Box 88000
Dallas, TX 75388
Contact: Jefferson A. Jolly/ V.P. & T.O.
214/655-8335</td><td>6</td><td>23</td><td>$149.5</td><td>$19</td><td>$17</td><td>$207</td></tr>
<tr><td colspan="6">Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement, Claims payment — 501(c)9 trusts</td></tr>
<tr><td rowspan="2">First National Bank of Atlanta
Two Peachtree Street, N.W.
P.O. Box 4148
Atlanta, GA 30302
Contact: David S. Graham/ V.P.
404/588-5104</td><td>4</td><td>4</td><td>$766.0</td><td>$61.5</td><td>$189.6</td><td>$1,800</td></tr>
<tr><td colspan="6">Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement</td></tr>
</table>

Number of Portfolios Maintained	Average Number of Accounts per Account Supervisor	Average Number of Accounts per Investment Mgr. Contact	Accounting System Utilized	Fail Float Credit	Short-Term Instruments Used	Date Interest on Short-Term Fund Credited	Timeliness of Reporting Package
500	100	20	Contractual settlement date	No	In-house managed	Accrued daily credited monthly	Ten days after month-end
Crediting Dividend and Interest Policy: On payable date. **Fee Structure:** Based on individual services performed.							
623	15-18	15-18	Trade date, contractual settlement date with pending adjustment, contractual settlement date	Negotiable	Open time deposits, Demand notes, STIF	First day following month-end	Three to four days
Crediting Dividend and Interest Policy: Clearinghouse and Federal funds on payable date. **Fee Structure:** Based on asset value, individual services performed, or flat quote.							
N/A	5 — M/D Trust unit 35 — Middle Mkt. unit	5	Trade date	Yes	Master notes, other money market instruments available	Last business day of month	Three to five days after period-end
Crediting Dividend and Investment Policy: In good funds available for reinvestment that day, on payable date. **Fee Structure:** Based on individual services performed, all negotiated.							
124	15	15	Trade date	Yes	Commercial paper, T-bills, Master notes, Repo's	Daily	Ten business days
Crediting Dividend and Interest Policy: On payable date. **Fee Structure:** Based on individual services performed.							
285	70	95	Contractual settlement date	Yes	Variable amount note, Federated master trust, Short-term gov't trust	—	—
Crediting Dividend and Interest Policy: Cash, on payment date. **Fee Structure:** Based on asset value only.							
179	60	6	Actual delivery date	No	Pooled fund, Demand notes	Third day of month	Tenth of month
Crediting Dividend and Interest Policy: Dividends — day after payment date; interest — day of receipt. **Fee Structure:** Based on individual services performed.							
325	100	10	Contractual settlement date	No	Master notes, STIF	Monthly on first of month	Annual — within 30 days of year-end; monthly — two weeks
Crediting Dividend and Interest Policy: On pay date. **Fee Structure:** Based on individual services performed.							

Name and Address of Bank	Number of Separate Master Trust Clients	Number of Directed Trust Clients	Master Trust Assets (in millions)	Directed Trust Assets (in millions)	Custodial Assets (in millions)	Total Employee Benefit Assets (in millions)
First National Bank of Boston **100 Federal Street** **Boston, MA 02110** **Contact:** Peter F. Tague, III/ V.P. 617/434-4560	38 (combined)		$500	$700	$2,500	$3,700
	Services Provided: Performance measurement, On-line portfolio analysis, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement					
First National Bank of Casper **P.O. Box 40** **Casper, WY 82602** **Contact:** John McAteer/ V.P. & T.O. 307/235-4362	25	5	$2.5	$.4	0	$5.5
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement					
First National Bank of Chicago **One First National Plaza** **Chicago, IL 60670** **Contact:** Charles M. Spear/ V.P. 312/732-6476	32	57	$3,496	$350	$2,227	$11,311*
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement, Index fund, Master trust plan recordkeeping, Real estate fund, Foreign securities fund *9/30/80 reporting date.					
First National Bank of Kansas City **P.O. Box 294** **Kansas City, MO 64141** **Contact:** Michael J. Patton/ V.P. 816/221-2800	2	30	$117.1	$156.2	$115.2	$471*
	Services Provided: Performance measurement, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement *$271.4 represents Directed Trust and Custodial Employee Benefit asset values.					
First National Bank of Minneapolis **P.O. Box A700** **120 South Sixth Street** **Minneapolis, MN 55480** **Contact:** Thomas S. Kalbrener/ Corp.T.Mktg.O. 612/370-4474	12	90	$200	$600	$1,900	$2,100
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping ERISA disclosure assistance, Benefit disbursement, Index fund					
First National Bank of Tuskaloosa **P.O. Box 2028** **Tuscaloosa, AL 35403** **Contact:** Lowell A. Womack/ V.P. & S.T.O. 205/345-5000	0	15	0	$2	0	$65
	Services Provided: Portfolio analysis, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement, Plan administrator services					

Number of Portfolios Maintained	Average Number of Accounts per Account Supervisor	Average Number of Accounts per Investment Mgr. Contact	Accounting System Utilized	Fail Float Credit	Short-Term Instruments Used	Date Interest on Short-Term Fund Credited	Timeliness of Reporting Package
77	7	16	Contractual settlement date	No	Various	First of month	Within ten business days
Crediting Dividend and Interest Policy: Pre-posted on payable date. **Fee Structure:** Based on individual services performed, combined with asset value.							
16	16	16	Contractual settlement date	—	Dreyfus money market funds	First of month	Two-day turnaround
Crediting Dividend and Interest Policy: Credit to account income on payable date. **Fee Structure:** Based on asset value only.							
213**	35	28	Trade date (posted on delivery)	Buys — no, sells — yes	Commingled money market fund, Repurchase agreements, Commercial paper, Master notes, CD's, T-bills	Last business day of month	Eight to ten business days
Crediting Dividend and Interest Policy: On payable date. **Fee Structure:** Based on asset value, plus basic account charge. **Master and Directed Trusts.							
45	22	30	Contractual settlement date	No	GMAC note, Federated master trust, Commercial paper	End of month	Within ten days of end of reporting period
Crediting Dividend and Interest Policy: Credited to account on pay date. **Fee Structure:** Based on asset value and individual services performed.							
100	15-40	15-40	Contractual settlement date	No	Master notes, CD's, T-bills, Commercial paper, pooled short-term money funds	Fourth day after month-end	Third business day
Crediting Dividend and Interest Policy: On payable date. **Fee Structure:** Based on asset value only.							
125	N/A	N/A	Contractual settlement date	Yes	Pooled time deposit open account, Federated securities, STIF, Repurchase agreements, Commercial paper, other short-term obligations	First of month	—
Crediting Dividend and Interest Policy: When collected. **Fee Structure:** Based on asset value only.							

Name and Address of Bank	Number of Separate Master Trust Clients	Number of Directed Trust Clients	Master Trust Assets (in millions)	Directed Trust Assets (in millions)	Custodial Assets (in millions)	Total Employee Benefit Assets (in millions)
First Pennsylvania Bank **15th and Chestnut Streets** **Philadelphia, PA 19101** **Contact:** Michael A. Mertz/ V.P. 215/786-8708	12	61	$481	$350	N/A	$1,300
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement					
First Union National Bank **Suite 1200** **First Union Plaza** **Charlotte, NC 28288** **Contact:** Peter R. Nagle/ V.P. & T.O. 704/374-6152	6	24	$45	$600*	$10	$825*
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement, Quality screen, GIC analysis *Figures at book value.					
First Wisconsin Trust Company **P.O. Box 2054** **Milwaukee, WI 53201** **Contact:** Joseph P. Bremner/ A.V.P. 414/765-5082	16	731	$800	$820	$1,620	$2,061
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement					
Harris Trust and Savings Bank **111 West Monroe Street** **Chicago, IL 60690** **Contact:** Richard C. Caldwell/ V.P. 312/461-6942	24	40	$4,000	$150*	$150*	$11,600
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement, Index fund, Market inventory fund, PEACS (Portfolio Evaluation and Control Service) *Consider Directed Trust and Custodial Employee Benefit asset values as the same.					
Hartford National Bank and Trust Company **One Landmark Square** **Stamford, CT 06904** **Contact:** Amos H. Crowley/ V.P. 203/358-2078	5	125	$265	$360	$50	$760
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement, DTC securities clearing, GIC selection assistance, Asset quality screening service					
Huntington National Bank **P.O. Box 1558** **Columbus, OH** **Contact:** Stephen Swett/ V.P., Mktg. Mgr. 614/469-7077	0	1100	0	$100	$25	$260
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement, Index fund					
Industrial National Bank of Rhode Island **Trust Department** **100 Westminster Street** **Providence, RI 02903** **Contact:** Andrew D. Parrillo/ Mgr. 401/278-6660	1	3	$1.0	$10.8	$2.6	$597.6
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement					

Number of Portfolios Maintained	Average Number of Accounts per Account Supervisor	Average Number of Accounts per Investment Mgr. Contact	Accounting System Utilized	Fail Float Credit	Short-Term Instruments Used	Date Interest on Short-Term Fund Credited	Timeliness of Reporting Package
426	52	10	Trade date, contractual settlement date and actual delivery date	Yes	Repo's, Commercial paper, Treasury obligations, CD's, Pooled STIF, Master notes	On daily basis	By 15th of next month
Crediting Dividend and Interest Policy: In clearinghouse funds on payable date. **Fee Structure:** Based on individual services performed.							
450	150	50	Trade date, contractual settlement date	Yes	Common trust funds, variable notes, money market funds	Last day of month	30 days after end of reporting period
Crediting Dividend and Interest Policy: Cash, on payable date. **Fee Structure:** Based on individual services performed.							
48	3	N/A	Trade date, contractual settlement date	Yes, on sell side	STIF composed of money market instruments	Monthly	15 days
Crediting Dividend and Interest Policy: Automatically credited to account on payment date. **Fee Structure:** Based on asset value and individual services performed.							
129**	10***	12	Contractual settlement date	Yes	Investment Reserve Fund (T-bills, Commercial paper, CD's, etc.)	Next day	12-15 business days following month-end
Crediting Dividend and Interest Policy: Posted to account on payable date. **Fee Structure:** Based on individual services performed. **Individually managed. ***Master Trust accounts.							
105	15	15	Contractual settlement date	Yes	STIF (CD's, Commercial paper, Treasuries, etc.)	Monthly	End of month
Crediting Dividend and Interest Policy: Credited to account on payable date. **Fee Structure:** Based on individual services performed.							
2100	250	—	Actual delivery date	Yes	Federated funds, Commercial paper, T-bills	Within first week of month	Annual — within several months
Crediting Dividend and Interest Policy: Pay date plus one. **Fee Structure:** Based on asset value and individual services performed.							
265	25	53	Contractual settlement date	Yes	Subscribe to Short-term money market fund; move funds to higher yielding assets when appropriate	First of month	As frequently as monthly, depending on client requirements
Crediting Dividend and Interest Policy: Credit subject to collection, on payable date. **Fee Structure:** Based on asset value and individual services performed.							

Name and Address of Bank	Number of Separate Master Trust Clients	Number of Directed Trust Clients	Master Trust Assets (in millions)	Directed Trust Assets (in millions)	Custodial Assets (in millions)	Total Employee Benefit Assets (in millions)
Irving Trust Company **One Wall Street** **New York, NY 10015** **Contact:** Bartley J. Fleming, Jr./V.P. — 212/487-7133, Allen R. Malcolm/V.P. — 212/487-6495	21*	83	$4,800	$300	$3,200	$8,500
	Services Provided: Performance measurement, Portfolio analysis, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement, Index fund, Market inventory fund, Options, Securities lending (public funds) *All figures as of 9/30/80.					
Lloyds Bank California **P.O. Box 54136** **Terminal Annex** **Los Angeles, CA 90054** **Contact:** Carl E. Stanford/ V.P. & T.O. 213/629-4381	0	800	0	$1,500	$500	$1,800
	Services Provided: Portfolio analysis, Portfolio review, Benefit disbursement					
Manufacturers and Traders Trust Company **One M & T Plaza** **Buffalo, NY 14208** **Contact:** James A. Cammarata/ A.V.P., Corp. & Inst. T. 719/842-5533	3	70	$115	$90	$25	$300
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement					
Manufacturers Hanover Trust Company **600 Fifth Avenue** **New York, NY 10020** **Contact:** John A. Spiezia/ V.P. 212/957-1842	21	44	$6,500	$700	N/A	$15,200
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement, Index fund, Market inventory fund					
Manufacturers National Bank of Detroit **Manufacturers Bank Tower** **Renaissance Center** **Detroit, MI 48243** **Contact:** Robert R. Schoonbeck/ V.P. & S.T.O. 313/222-4471	22	183	$6,200	$1,100	$650	$9,300
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement, Index fund, Market inventory fund, Plan administrative services					
M&I Marshall & Ilsley Bank **770 North Water Street** **Milwaukee, WI 53202** **Contact:** Morry L. Birnbaum/ V.P. 414/756-8187	16	130	$400	$150	$550	$750
	Services Provided: Performance measurement, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement, Plan accounting					

Number of Portfolios Maintained	Average Number of Accounts per Account Supervisor	Average Number of Accounts per Investment Mgr. Contact	Accounting System Utilized	Fail Float Credit	Short-Term Instruments Used	Date Interest on Short-Term Fund Credited	Timeliness of Reporting Package
165	25	27	Trade date, contractual settlement date	Yes	Collective STIF, Master notes, Commercial paper, etc.	First business day after month-end	Ten days
Crediting Dividend and Interest Policy: On payable date. **Fee Structure:** Based on individual services performed.							
800	200	25	Contractual settlement date	Yes	Variable interest commercial paper notes, two money market funds	Monthly	15 days
Crediting Dividend and Interest Policy: Credited to account by computer on payable dates. **Fee Structure:** Based on asset value only.							
300	60	40	Trade date	No	Master notes, CD's, T-bills, Commercial paper, Short-Term U.S. Gov't Securities Fund, Short-Term Money Market Fund	Monthly	Within ten days of month-end
Crediting Dividend and Interest Policy: Immediate cash credit on payable date. **Fee Structure:** Based on individual services performed.							
140	26	13	Trade date, contractual settlement date with pending adjustment, contractual settlement date and actual delivery date	Yes	Short-Term Reserve Fund	First of month	Ten to 15 days after month-end
Crediting Dividend and Interest Policy: In Federal funds on payable date. **Fee Structure:** Based on asset value only.							
1850	125	30	Trade date, contractual settlement date at plan sponsor's election	Yes	STIF, Master notes, CD's, Commercial paper, T-bills, Repo's	Third of month	Fourth business day of month
Crediting Dividend and Interest Policy: On payable date. **Fee Structure:** Flat quote.							
30	90	25	Contractual settlement date with pending adjustment	Negotiated	Various in-house, STIF, Commercial paper, Automated cash management, Master notes, T-bills	First of month	Five to seven business days
Crediting Dividend and Interest Policy: Posted to account on payable date. **Fee Structure:** Available on request.							

Name and Address of Bank	Number of Separate Master Trust Clients	Number of Directed Trust Clients	Master Trust Assets (in millions)	Directed Trust Assets (in millions)	Custodial Assets (in millions)	Total Employee Benefit Assets (in millions)
Mellon Bank, N.A. **Mellon Square** **Pittsburgh, PA 15230** **Contact:** John R. Gepfert/ V.P. 412/232-6861	21	20	$7,300	$850	$64.6	$15,619
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement, Index fund, Options management, Crosstrading with larger master trusts					
Mercantile-Safe Deposit & Trust Company **Two Hopkins Plaza** **P.O. Box 2257** **Baltimore, MD 21203** **Contact:** George P. Govatos/ V.P. 301/237-5619	293 (combined)		$746.2	$584.1	$1,312.3	$2,904.2*
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement, Index fund, Asset allocation analysis *Total institutional trust assets.					
Merchants National Bank of Manchester **One Hampshire Plaza** **Manchester, NH 03105** **Contact:** James E. Conroy/ V.P. & T.O. 603/668-5000	54 (combined)		N/A	N/A	N/A	$20
	Services Provided: Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement, Options fund					
Michigan National Bank **77 Monroe Center** **Grand Rapids, MI 49501** **Contact:** Thomas L. DeFer/ V.P. 616/451-7686	0	13	0	$28	$30	$250
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement					
Moody National Bank **P.O. Box 1139** **Galveston, TX 77553** **Contact:** E. J. Henske/ S.V.P. & T.O. 713/765-5561	—	4	—	$3	—	$3
	Services Provided: Performance measurement, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement					
National Bank of Detroit **611 Woodward Avenue** **Detroit, MI 48232** **Contact:** Clarence E. Kufel/ S.V.P. 313/225-3900	20*	*	$2,100*	*	$462	$5,900
	Services Provided: Performance measurement, Portfolio analysis, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement, Index fund, Market inventory fund *Consider Master Trust and Directed Trust as the same.					

Number of Portfolios Maintained	Average Number of Accounts per Account Supervisor	Average Number of Accounts per Investment Mgr. Contact	Accounting System Utilized	Fail Float Credit	Short-Term Instruments Used	Date Interest on Short-Term Fund Credited	Timeliness of Reporting Package
202	N/A	N/A	Trade date	Yes	U.S. treasuries and agencies, Commercial paper, Repurchase agreements, CD's, demand notes	Weekly	Three to five days (cash basis), 12 business days (accrual basis)
Crediting Dividend and Investment Policy: With clearinghouse funds on payable date. **Fee Structure:** Based on asset value and individual services performed.							
49	90	7	Contractual settlement date	Negotiable	Master notes, Commingled STIF, Money funds	Same day	Daily reports — next day, Monthly and Quarterly Reports — five to seven business days, Annual Reports — four to six weeks
Crediting Dividend and Interest Policy: Credited to account on theoretical payable and settlement day. **Fee Structure:** Based on asset value, plus income, plus individual services performed.							
54	27	27	Trade date	—	Federated master trust, U.S. short-term gov't, Money Market Management, Inc.	—	—
Crediting Dividend and Interest Policy: Not reported. **Fee Structure:** Based on individual services performed.							
520	130	125	Trade date; contractual settlement date with pending adjustment; contractual settlement date; actual delivery date	Yes	Institutional Liquid Assets — Prime Obligation Portfolio, Trust for short-term U.S. gov't securities	First business day of month	One to five days
Crediting Dividend and Interest Policy: Automatic on payable date. **Fee Structure:** Based on individual services performed.							
4	2	2	Actual delivery date	No	U.S. treasuries, Commercial paper, CD's	N/A	—
Crediting Dividend and Interest Policy: Checks or credit to account when received. **Fee Structure:** Based on asset value only.							
88	7	10	Sales — contractual settlement date; Purchases — actual delivery date	Yes	Master notes, Commercial paper, CD's, Repurchase agreements, Bankers acceptances, T-bills	Computed daily; credited first of month	Cash statements and inventories — within seven business days; annual & plan accountings — within 30 business days
Crediting Dividend and Interest Policy: Federal (immediate) funds on payment date. **Fee Structure:** Based on asset value and individual services performed.							

Name and Address of Bank	Number of Separate Master Trust Clients	Number of Directed Trust Clients	Master Trust Assets (in millions)	Directed Trust Assets (in millions)	Custodial Assets (in millions)	Total Employee Benefit Assets (in millions)
National Trust Co., Ltd. **21 King Street East** **Toronto, Ontario, M5C 1B3** **Contact:** D. D. Landreville/ V.P.	12	40	$1,300	$1,100	$2,100	$3,200
	Services Provided: Performance measurement, Participant recordkeeping, Benefit disbursement, Index fund					
The Northern Trust Co. **50 South LaSalle Street** **Chicago, IL 60675** **Contact:** Thomas H. Kalen/ V.P. 312/630-6000	61	33	$12,084	$956	$40	$13,080
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement, Index fund, Market inventory fund, Asset allocation					
Pacific National Bank of Washington **P.O. Box 21927** **Seattle, WA 98111** **Contact:** John P. Patterson/ V.P. & T.O. 206/292-3530	0	38	0	$79.9	$59.4	$322.0
	Services Provided: Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement					
Republic National Bank of Dallas **P.O. Box 241** **Dallas, TX 75221** **Contact:** W. Humphrey Bogart/ S.V.P. & T.O., David J. Pittman/V.P. & T.O. 214/653-6881 214/653-6506	18	35	$3,500*	$3,500*	$3,500*	$5,000
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement, TUCS, Asset allocation, Securities lending (if approved), Option accounting, Cash management and forecasting, Customized reports *Consider Master Trust, Directed Trust, and Custodial Assets as the same.					
Richfield Bank & Trust Co. **6625 Lyndale Avenue South** **Minneapolis, MN 55423** **Contact:** Robert Prentiss/ V.P. 613/861-7355	N/A	200	N/A	$40	$10	$60
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement, Hard asset storage					
Royal Trust Corporation of Canada **P.O. Box 7500** **Station "A"** **Toronto, Ont. M5W 1P9** **Contact:** J. A. Gordon/A.V.P., Pension Trust Mkt. 416/867-2403	27	157	$1,200	$4,500	N/A	$7,100
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, Gov't disclosure assistance, Benefit disbursement, Real estate equity fund					

Number of Portfolios Maintained	Average Number of Accounts per Account Supervisor	Average Number of Accounts per Investment Mgr. Contact	Accounting System Utilized	Fail Float Credit	Short-Term Instruments Used	Date Interest on Short-Term Fund Credited	Timeliness of Reporting Package
32	10	12	Trade date; contractual settlement date with pending adjustment; contractual settlement date	Yes	Interest-bearing notes, Banker discount notes, Commercial notes, T-bills, bank deposits	Computed daily/ credited monthly	—
Crediting Dividend and Interest Policy: On receivable posting. **Fee Structure:** Based on asset value and individual services performed.							
486	7*	48	Trade date (reporting)	Yes	Domestic CD's, Eurodollar CD's, Yankee CD's, Yankee bankers acceptances, Repurchases	Third business day following month-end	Three to five business days following month-end
Crediting Dividend and Interest Policy: Clearinghouse funds on payable date. **Fee Structure:** Based on asset value only. *Master Trust accounts.							
111	16	16	Actual delivery date	Yes, by keeping funds invested until actual delivery date	Dealer commercial paper, Master notes	Accrued daily, paid first business day of month	Mailed within seven business days after period-end
Crediting Dividend and Interest Policy: Credited to account on payable date. **Fee Structure:** Based on individual services performed.							
105	10	10	Trade date; contractual settlement date with pending adjustment; contractual settlement date	Yes	Republic Short-Term Securities Fund (P-1, A-1 commercial paper investments only)	First business day of month	Five business days after report date
Crediting Dividend and Investment Policy: Federal funds on payable date. **Fee Structure:** Based on individual services performed.							
100	100	50	Contractual settlement date with pending adjustment	Yes	ILC	Third or fourth business day of month	Daily, if requested
Crediting Dividend and Interest Policy: Posted and invested short term next day as received. **Fee Structure:** Based on individual services performed.							
200*	12	8	Trade date (for reporting purposes only), Contractual settlement date (for actual cash posting)	No	Short-term notes, T-bills, Company GTD Deposit Account	Last day of month	Third week after end of quarter
Crediting Dividend and Interest Policy: On payable date. **Fee Structure:** Based on asset value only. *Individually managed.							

Name and Address of Bank	Number of Separate Master Trust Clients	Number of Directed Trust Clients	Master Trust Assets (in millions)	Directed Trust Assets (in millions)	Custodial Assets (in millions)	Total Employee Benefit Assets (in millions)
Seattle Trust & Savings Bank **804 Second Avenue** **Seattle, WA 98111** **Contact:** John T. Garland/A.V.P. 206/223-2030	0	47	0	$17.6	$6.8	$165
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement, Master corporate pension & profit-sharing plans					
Simmons First National Bank **P.O. Box 7009** **Pine Bluff, AR 71611** **Contact:** J. W. Eaton/T.O. 501/541-1107	3	19	$3.8	$1.9	$.1	$25.2
	Services Provided: Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement					
Southern National Bank of Houston **P.O. Box 2529** **Houston, TX 77001** **Contact:** Milton Denlinger/T.O. 713/759-2965	100	75	$75	$6	$9	$90
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, Benefit disbursement					
St. Louis Union Trust Company **510 Locust Street** **St. Louis, MO 63101** **Contact:** William F. Florich, James R. Janetz/Pension Development 314/231-9300	6	27	$423.0	$212.4	$196.4	$2,828.5
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance,* Benefit disbursement, Index fund *Report styled in manner adaptable to 5500 form.					
State Street Bank and Trust Company **P.O. Box 351** **Boston, MA 02101** **Contact:** Alex Kondracki/V.P. 617/786-6350	50	20	$12,000	$150	N/A	$12,200
	Services Provided: Performance measurement, Portfolio analysis, ERISA disclosure assistance, Benefit disbursement, Index fund					
Suburban Trust Company **2601 University Boulevard, West** **Wheaton, MD 20902** **Contact:** Reeve W. Draft/T.O.	0	23	0	$20	$2	$50
	Services Provided: Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement					

<table>
<tr><th>Number of Portfolios Maintained</th><th>Average Number of Accounts per Account Supervisor</th><th>Average Number of Accounts per Investment Mgr. Contact</th><th>Accounting System Utilized</th><th>Fail Float Credit</th><th>Short-Term Instruments Used</th><th>Date Interest on Short-Term Fund Credited</th><th>Timeliness of Reporting Package</th></tr>
<tr><td>—</td><td>9</td><td>—</td><td>Trade date</td><td>—</td><td>Institutional Liquid Assets Fund, Pacific N.W. Bell master note, Wells Fargo master note</td><td>Last business day of month</td><td>—</td></tr>
<tr><td colspan="8">Crediting Dividend and Investment Policy: Dividend suspense A/c on payable date.
Fee Structure: Based on individual services performed.</td></tr>
<tr><td>161</td><td>161</td><td>80</td><td>Actual delivery date</td><td>—</td><td>Money Market Trust</td><td>Second business day of month</td><td>15 days after PYE</td></tr>
<tr><td colspan="8">Crediting Dividend and Interest Policy: Actual when received.
Fee Structure: Based on asset value only.</td></tr>
<tr><td>25</td><td>50</td><td>—</td><td>Not reported</td><td>—</td><td>Federated master trust, Commercial Paper Fund</td><td>Month-end</td><td>—</td></tr>
<tr><td colspan="8">Crediting Dividend and Interest Policy: Not reported.
Fee Structure: Based on asset value only.</td></tr>
<tr><td>574</td><td>60</td><td>70</td><td>Contractual settlement date</td><td>Yes</td><td>Master notes, Banker's acceptance, Commercial paper, CD's, Repurchase agreements</td><td>Second business day of month</td><td>Varies according to report</td></tr>
<tr><td colspan="8">Crediting Dividend and Interest Policy: Credited to account, with principal and income cash balances automatically reinvested daily through short-term investment fund, on payable date.
Fee Structure: Based on asset value only.</td></tr>
<tr><td>60</td><td>60</td><td>5</td><td>Trade date, actual delivery date</td><td>Yes</td><td>Federated Trust</td><td>First of month</td><td>Three days</td></tr>
<tr><td colspan="8">Crediting Dividend and Interest Policy: Automated when received.
Fee Structure: Based on individual services performed.</td></tr>
<tr><td>300</td><td>4</td><td>3</td><td>Trade date</td><td>Yes</td><td>State Street STIF</td><td>Daily</td><td>Five to seven days</td></tr>
<tr><td colspan="8">Crediting Dividend and Interest Policy: Good funds when received.
Fee Structure: Based on individual services performed.</td></tr>
</table>

Name and Address of Bank	Number of Separate Master Trust Clients	Number of Directed Trust Clients	Master Trust Assets (in millions)	Directed Trust Assets (in millions)	Custodial Assets (in millions)	Total Employee Benefit Assets (in millions)
Sumitomo Bank of California **365 California Street** **San Francisco, CA** **Contact:** Bob R. Otani/ V.P. & Mgr. 415/445-8090	0	634	0	$75	$10	$85
	Services Provided: Benefit disbursement					
Texas Commerce Bank, N.A. **P.O. Box 2558** **Houston, TX 77001** **Contact:** John W. Kesner/ S.V.P. & T.O. 713/236-4444	11	24	$660	$450	$1,123	$2,600
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement, Cash management, Audit assistance					
United States Trust Company of New York **45 Wall Street** **New York, NY 10005** **Contact:** Alfred H. Antignolo/ V.P., Richard R. Smith/V.P. 212/425-4500	11	58	$1,200	$1,800	$11,000	$14,000
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement, Asset allocation, STIF, Portfolio characteristics					
Wachovia Bank & Trust Company, N.A. **P.O. Box 3099** **Winston-Salem, NC 27102** **Contact:** Jane B. Fisher/ V.P. 919/748-6348	25	15	$3,400	$400	$10	$4,800
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement, Index fund, Foreign investment service, Bond immunization					
Wells Fargo Bank **475 Sansome Street** **P.O. Box 44050** **San Francisco, CA 94144** **Contact:** Roberta Lyon/ V.P. & T.O. 415/396-5561	54	N/A	$2,700	N/A	N/A	$6,000
	Services Provided: Performance measurement, Portfolio review, Portfolio analysis, Participant recordkeeping, International Market Fund, ERISA disclosure assistance, Benefit disbursement, Index fund, Market inventory fund, Value Added Equity Fund, Yield Tilt Market Fund, Real Estate Equity Fund, Asset allocation, Multiple manager evaluation, Performance evaluation, Portfolio structuring, Risk measurement and control					
Wilmington Trust Company **Tenth & Market Streets** **Wilmington, DE 19899** **Contact:** Robert B. Landon/ V.P. 302/428-7317	6	59	$132	$3,790	$110	$4,032
	Services Provided: Performance measurement, Portfolio analysis, Portfolio review, Participant recordkeeping, ERISA disclosure assistance, Benefit disbursement					

<table>
<tr><th>Number of Portfolios Maintained</th><th>Average Number of Accounts per Account Supervisor</th><th>Average Number of Accounts per Investment Mgr. Contact</th><th>Accounting System Utilized</th><th>Fail Float Credit</th><th>Short-Term Instruments Used</th><th>Date Interest on Short-Term Fund Credited</th><th>Timeliness of Reporting Package</th></tr>
<tr><td>—</td><td>—</td><td>—</td><td>Actual delivery date</td><td>Yes</td><td>CD's, Banker's acceptances, Prime commercial paper, T-bills, Notes</td><td>As received</td><td>Within 45 days</td></tr>
<tr><td colspan="8">Crediting Dividend and Interest Policy: As received.
Fee Structure: Based on asset value only.</td></tr>
<tr><td>80*</td><td>66**</td><td>30</td><td>Purchases — contractual settlement date; sales — actual delivery date; trade date currently being programmed</td><td>No</td><td>Master notes, Repurchase agreements, Institutional liquid assets, Commercial paper</td><td>Five days after month-end</td><td>Ten business days</td></tr>
<tr><td colspan="8">Crediting Dividend and Interest Policy: Dividends credited to account on payable dates; interest credited to account when received.
Fee Structure: Based on individual services performed.
*Master and Directed trusts.
**All employee benefits.</td></tr>
<tr><td>114</td><td>6-7</td><td>20</td><td>Actual delivery date</td><td>Yes</td><td>STIF, Master notes</td><td>Payable date</td><td>Three to 15 days</td></tr>
<tr><td colspan="8">Crediting Dividend and Interest Policy: On payment date.
Fee Structure: Based on individual services performed.</td></tr>
<tr><td>125</td><td>5</td><td>25</td><td>Contractual settlement date with pending adjustment</td><td>Yes</td><td>Pooled short-term money fund, Master notes</td><td>First business day of month</td><td>Ten days, unless client has special time frames</td></tr>
<tr><td colspan="8">Crediting Dividend and Interest Policy: By Federal funds on payable date.
Fee Structure: Based on asset value only.</td></tr>
<tr><td>150</td><td>10-20</td><td>10-20</td><td>Contractual settlement date</td><td>Yes</td><td>Automated daily computerized transfer to STIF, Master notes, CD's, T-bills, Direct placement commercial paper</td><td>Payable date</td><td>Ten days</td></tr>
<tr><td colspan="8">Crediting Dividend and Interest Policy: Automatically credited on payable date.
Fee Structure: Based on individual services performed.</td></tr>
<tr><td>182</td><td>15</td><td>20</td><td>Contractual settlement date</td><td>If requested</td><td>In-house master notes, Short-term market instruments</td><td>Monthly and at maturity</td><td>Monthly</td></tr>
<tr><td colspan="8">Crediting Dividend and Interest Policy: Credited to account on payable date, if in bank's nominee name or bearer; when actually received, if in customer's name.
Fee Structure: Based on computed market value of account with additional charge for individual services performed.</td></tr>
</table>

MARCH 1981

Pension World

The Magazine for Plan Sponsors and Investment Managers/A Publication of Communication Channels, Inc.

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Freeport Minerals: Mining Asset Security and Flexibility

Pension Fund Investment in Tangibles

Screening Investment Managers

A Winning Vehicle: Convertible Mortgages

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March 1981
Volume 17 Number 3

Pension World

The Magazine for Plan Sponsors and Investment Managers / A Publication of Communication Channels, Inc.

FEATURES

Freeport Minerals: pension security and flexibility by Ronald Derven **14**
The Freeport Minerals' pension plan team explains the benefits plan and funding strategy that provide the firm's beneficiaries with a safe haven.

Tangible investments **19**
Pension World presents updates on investment in hard assets, including diamonds, gold, art, and rare coins.

Diamond investments — a different perspective by S. Q. DellaGrotta 19

Should pension funds invest in gold? by Andre Sharon 30

Art as an investment — a cautious view by Stephen S. Lash 33

Rare coins in pension funds — the time has come by Donald H. Kagin 38

A practical guide for screening investment managers by Brian Rom **56**
With several hundred independent counselors, banks, and trust and insurance companies currently offering investment management services, this article offers common-sense advice for the plan sponsor sorting through the ranks.

Health care cost control *Pension World* report **64**
Health care in this country is indexed to the CPI, uncapped, and totally unfunded. *Pension World* examines what plan sponsors can do to lighten the cost burden.

The convertible mortgage: everyone can be a winner by Baron A. Jones **70**
A real estate consultant defines a novel financing concept that may become *the* real estate vehicle of the '80's.

The new IRS discrimination tests by Joan P. Simmons and Jeffrey D. Mamorsky **72**
"What Every Fiduciary Should Know" outlines some potential problems resulting from recent vesting and participation regulations issued by the Internal Revenue Service.

Pension World Basics: Establishing the framework for an employee benefits program by Everett T. Allen, Jr. **75**
Every plan manager should consider the 14 points outlined here before structuring — or restructuring — a benefits program.

DEPARTMENTS

Guest Editorial **4**
International Pension World **8**
Washington Newsletter **12**
Pension News **47**
Pension People **51**
Meetings and Conventions **54**

Cover: Freeport Minerals' success is dependent, to an extent, on risk-taking. Safety, however, is the key to its pension program. Story begins on page 14.

Pension World

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ISSN 0098-1753

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A practical guide for screening investment managers

by Brian Rom

Consider the plight of the plan sponsor about to embark on a search for new investment managers. With several hundred independent counselors, banks, trust and insurance companies currently offering investment management services, where does the sponsor begin? He may have compiled a file of those firms that have been soliciting the plan's business, possibly augmented by a handful of recommendations from colleagues at other companies on advisers "who've done a good job for us." At best, the result of this type of erratic, *ad hoc* approach will be an unsystematic list of, most likely, unrepresentative managers. At worst, the pension executive, frustrated by his inability to reduce even this first stage of the problem to manageable proportions, may be tempted to "simplify" the project by giving the account to a local bank or the first investment manager with a credible marketing presentation.

Brian Rom is president of the pension investment consulting firm, Brian Rom Co., in New York.

The point is that, if the universe with which the sponsor begins the search does not represent the widest possible range of available investment expertise, the already difficult task of identifying the most suitable advisers will be severely jeopardized. Consequently, it is imperative for the project to begin with an effort to reduce the very large universe of potential advisers to a size that can be properly investigated and evaluated.

The manager-screening methods described below follow from the recognition of this need. The second part of this article reports the results of a recently-conducted screening project, covering some 435 investment advisers who represent 656 investment portfolios (Table I). Owing to the size of this universe we found it necessary to use criteria which are both measurable and relatively accessible; two such criteria are *size* of the (tax-exempt) asset pool under management and historical *investment performance.*

Size of asset pool

The desired size of the firms will vary in accordance with each plan's requirements. For our study, the minimum assets under management were $50 million. This follows from our belief that a single sponsor's participation should not represent more than ten percent of the total sum managed by any firm. Consequently, this minimum allows for portfolios of at least five million dollars to be placed with any of the managers who are considered. On the other hand, no maximum-size constraints were imposed, thereby allowing for the largest possible universe of managers to be considered.

Historical investment performance

In spite of limitations in the use of historical performance numbers, the hard reality of the investment world is that this performance remains the most used — and most useful — single available indicator of investment management skills.

Among the sharpest of the criticisms leveled against history as meaningful information in evaluating investment managers for future responsibilities are: 1) past performance is not necessarily an indication of future performance, and 2) owing to differences in styles and philosophies among managers, direct comparisons of performance are not valid. Even though both of these criticisms contain important elements of

Table I

Results of Size Screen
Composition of "Beginning Universe"

			Number of Portfolios			
	No. of Institutions			**Passing Size Screen¹**		
Type of Institution	**Total Surveyed**	**Passing Size Screen¹**	**Total Surveyed**	**Equity**	**Fixed Income**	**Totals**
Banks & Trust Companies	327	161	492	124	81	205
Counselors	82	82	126	79	47	126
Insurance Companies	26	17	38	10	22	32
Totals	435	260 (60%)	656	213	150	363 (55%)

¹At least $50 million in tax-exempt assets under management; these managers comprise the "Beginning Universe."

If the beginning universe does not represent the widest possible range of available investment expertise, the task of identifying the most suitable advisers will be jeopardized.

truth, we can live with these imperfections so long as the numbers are used with common sense and discernment; this means not forcing from them a precision which does not exist. For example, no attempt should be made to rank the managers according to these "raw" investment results; they should be thought of as a "pass/fail" screen rather than as specific "grades" representing each manager's standing in the class. Such caution will significantly reduce the potential for error and distortion.

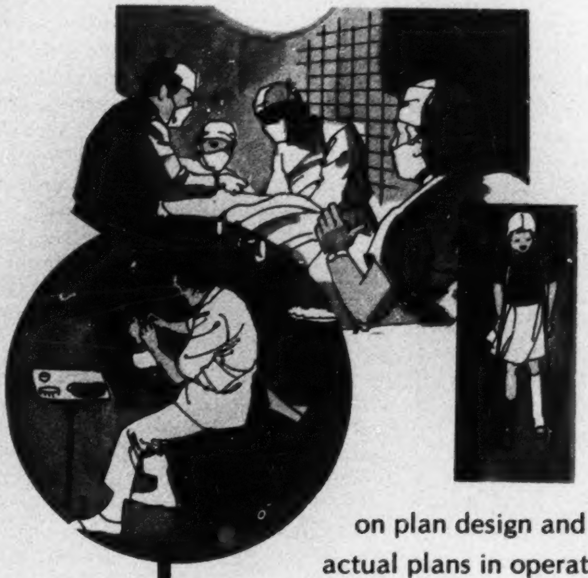
Consider now the first of the objections listed above — that what a manager did yesterday is of little help in telling us what he is likely to do tomorrow. Our position is that if "yesterday" is long enough and if enough of these "yesterdays" are considered, it is possible to identify patterns of consistency. Therefore, it is not unreasonable to favor those managers with consistently superior past performance over those who are consistent underperformers or inconsistent outperformers.

With this in mind, we selected the following five time periods:

- One year: 1979
- Three Years: 1977 to 1979, inclusive
- Five years: 1975 to 1979, inclusive
- Ten years: 1970 to 1979, inclusive
- Four-year market cycle: 1973 to 1976, inclusive

For a manger to pass the performance screen and thereby gain admittance to what we have termed the "Qualifying Universe," his performance must equal or exceed the median rate of return of a representative manager universe for at least three of these five time periods. This screen will naturally be applied separately to equity and fixed-income portfolios.

Although nothing prevents the use of absolute (i.e. market) indices, such as the S&P and the Salomon Bros., respectively, rela-



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If a senior member of a management firm has departed during the period under analysis, it will be necessary to determine the impact of this change on historical and prospective investment results.

Table II Results of Performance Screen Portfolio-Composition of "Qualifying Universe"

	Portfolios Passing						
	Equity Performance Screen		Fixed-Income Performance Screen		Totals		
Type of Institution	No.	Percent of Beginning Universe[1]	No.	Percent of Beginning Universe[1]	No.	Percent of Beginning Universe[1]	Percent of Qualifying Universe[2]
Banks & Trust Companies	35	28%	27	33%	62	30%	45%
Counselors	49	62	15	32	64	51	47
Insurance Companies	7	70	4	18	11	34	8
Totals	91	43%	46	31%	137	28%	100%

[1] See Table I.

[2] The "Qualifying Universe" consists of those managers passing *both* the size and performance screens.

tive (i.e. peer-group) standards seem to make more sense, since we are trying to identify those managers who have consistently done better than the majority of their competitors.

Notice that the "three-out-of-five" rule effectively excludes from consideration all those management organizations with a track record shorter than five years. While this is sure to eliminate a number of otherwise well-qualified firms, shorter time periods are not sufficient to allow the manager to demonstrate the required superiority and consistency. This is not to say that those managers who do not qualify for this screen should not be given consideration — there will almost always be a number of additional advisers the sponsor will want to consider, irrespective of performance.

If one establishes that a senior member of a management firm has departed during the period under analysis, it will be necessary to determine the impact of this change on historical and prospective investment results. This will usually be done during the interviewing of candidate managers where the objective is to determine whether the history remains representative of the firm's abilities in spite of the departure of key individual(s).

On the other hand, if these departing individuals set up their own, new advisory firm, their track records at the previous employer may be used to screen them in the fashion described above. The burden of proof, however, lies on these persons to demonstrate that the old firm's numbers are directly attributable to themselves and also that they will continue to manage money as before.

The second criticism — lack of comparability of performance data — is partially answered by using, whenever possible, published and audited performance information. For much of the needed data, there are several reliable sources. If

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A spreading of performance history over multiple periods serves to even out the effects of style differences.

Table III

Results of Performance Screen
Institution-Composition of "Qualifying Universe"

	Number of Institutions Passing					
Type of Institution	Equity Performance Screen Only	Fixed-Income Performance Screen Only	Both Equity and Fixed Income Performance Screens	Total Inst. Passing	Percent of Beginning Universe[2]	Percent of Qualifying Universe[3]
Banks & Trust Companies	25	17	10	52	32%	46%
Counselors	38	4	11	53	65	46
Insurance Companies	5	2	2	9	53	8
Totals	68	23	23	114	44%	100%

[2] See Table I.
[3] The "Qualifying Universe" consists of those managers passing *both* the size and performance screens.

this is not possible, and the adviser himself has supplied the information, extra care should be exercised when interviewing the manager and special attention should be given to the derivation of the performance numbers.

The second part of this objection — lack of comparability due to different styles and objectives — is substantially reduced by considering the results over the extended time periods, as detailed above. This "spreading" of performance history over multiple periods serves to even out the effects of style differences.

We turn now to a description of the Qualifying Universe developed in accordance with the size and performance criteria described above. Table I shows the composition of the total universe of managers initially surveyed, as well as that of the Beginning Universe which consists of all those managers surviving the size screen. This table shows that 260 (60 percent) of the 435 institutions and 363 (55 percent) of the 656 portfolios canvassed survived this screen.

Tables II to IV show the details of the Qualifying Universe's composition in terms of type or size against the number of managers and portfolios.

All told, 114, or 44 percent, of the Beginning Universe passed the performance screen (Table II), with the 65 percent success rate for the counselors more than twice the corresponding 32 percent rate achieved by the banks and trust companies. Owing to the larger number of banks than counselors in the Beginning Universe, these different rates translate into identical representations (46 percent) in the Qualifying Universe. Observe that the counselors dominate the equity representation, while the banks lead in the fixed-income department.

Table III shows the Qualifying Universe in terms of actual portfolios and is, therefore, a better rep-

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THE NATION'S HEADQUARTERS FOR PENSION AND INSURANCE PERSONNEL

Analysis of the number of successful equity managers suggests there may be a positive correlation between smaller size and better performance.

Table IV

Results of Performance Screen
Composition of "Qualifying Universe" by Size of Institution

Size of Institution (Total tax-exempt assets under mgmt.)	How Qualified: Passed Equity Only	How Qualified: Passed Fixed Income Only	How Qualified: Passed Equity & Fixed	Number Qualifying	Percent of Qualifying Universe[1]
Medium ($50 mil. to $1 bil.)	49	8	12	69	61%
Large ($1 bil. to $2.5 bil.)	11	6	6	23	20
Very Large ($2.5 bil. & up)	8	9	5	22	19
Totals	68	23	23	114	100%

[1]The "Qualifying Universe" consists of those managers passing *both* the size and performance screens.

resentation of the range of investment expertise that has qualified. The table shows that 137 out of 363, or 38 percent of the portfolios, survived the performance screen; of these, the number of equity portfolios (91) led the 46 fixed-income qualifiers by an almost two-to-one margin. Although 70 percent of the insurance companies' equity portfolios passed, the small number of these portfolios reduces the significance of this statistic. Of particular interest here is the 62 percent to 28 percent success rate of counselor-equity to bank-equity portfolios. This dominance is not evident in the fixed-income case where the banks and the counselors have almost the same representation — 33 percent and 32 percent, respectively.

Overall, just over half the counselors' portfolios passed the performance screen, compared with less than a third of the banks and trust companies, and 34 percent for the insurance companies. Following the pattern seen in Table II, these success rates translate into about an equal number of qualifying portfolios for the counselors and the banks.

Table IV shows the composition of the Qualifying Universe in terms of institution size: nearly two-thirds of this group consists of medium-sized managers, with the balance split about equally between those that are large or very large.

Analysis of the number of successful equity and fixed-income managers suggests that there may be a positive correlation between smaller size and better performance for the equity managers, while this pattern is far less evident in the fixed-income case. Taken together, these data suggest to us that small, independent counselors have more consistent overall performance records than larger institutions.

Whatever broad conclusions one might draw from this study, it is apparent that the Qualifying Universe of 114 managers it produces are a representative cross-section of some of the best expertise available in the investment management community. Plan sponsors, after analyzing their own specific needs, can now select from this number those institutions to which they wish to devote more time for additional quantitative research, as well as the essential qualitative investigations which will precede the final manager-selection decision.

This study has also shown that, in spite of certain limitations, practical utilization of available real-world information can contribute useful knowledge which will enhance the efficiency and effectiveness of the investment manager search and selection process. ☐

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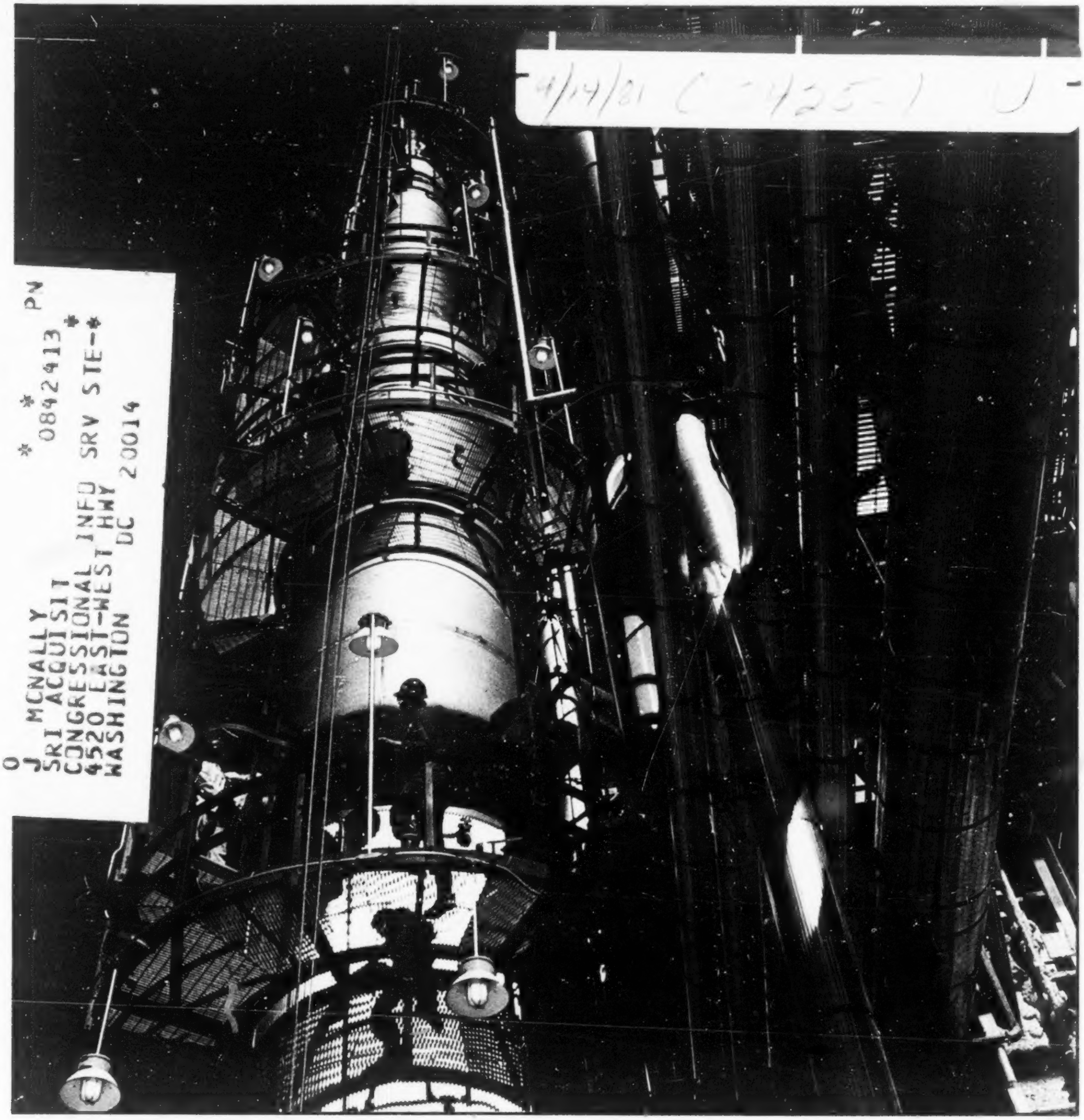
GAF's Pension Fund Continues to Build



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Choosing the Right Real Estate Investment Manager

Can Plan Sponsors Afford Post-Retirement Income Adjustments?

PW Basics: A Glossary of Investment Terms

April 1981 Volume 17 Number 4

Pension World

The Magazine for Plan Sponsors and Investment Managers/A Publication of Communication Channels, Inc.

FEATURES

GAF fund builds to $210 million by Ronald Derven 21
GAF's Pension investment team discusses how it hammered out a strategy that has nearly doubled the fund in the past two years.

Choosing a real estate investment manager by James A. Kujaca 26
A pension/real estate pro at Illinois Bell points out the broad concepts and minute details to examine to pick the right real estate investment manager out of the crowd.

Marketing employee benefits fosters good relations by Louis C. Kleber 33
This no-nonsense guide to communicating benefits maintains that few, if any, excuses exist anymore for *not* marketing a good package.

Coming of Age: Toward a National Retirement Income Policy 40
Executive Summary of the Report of the President's Commission on Pension Policy
The President's Commission has emphasized some thought-provoking issues that are likely to stir many forces in Washington.

Size isn't everything by Ronald Derven 51
According to investment boutique manager, M. D. Sass, when it comes to managing pension fund money, bigger is not necessarily better.

The inflation challenge by Marvin A. Levins 54
Using a three percent cap and partially indexing benefits to short-term interest rates can provide a substantial defense against erosion of retirees' benefits.

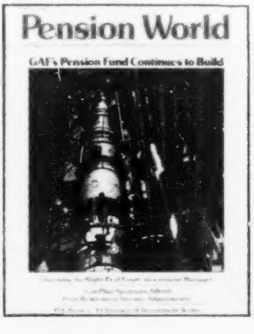
What Every Fiduciary Should Know: Playing Russian roulette with lump sum options by Leo Brown and Jeffrey D. Mamorsky 58
Lump sum options are available in 30 percent of defined benefit plans. Can fiduciaries of these plans continue to guarantee the safety of principal for *all* beneficiaries?

Pension World Basics: Glossary of investment terms Part 1 by Eugene Burroughs 64
An investment expert has compiled this basic, usable list of terms for investment newcomers — and veterans. Part I of two parts.

DEPARTMENTS

Guest Editorial 4
Letters to the Editor 6
International Pension World 8
Washington Newsletter 15
Pension News 44
Pension People 48
Meetings and Conventions 50
Arbitration Awards 72

Cover: In less time than it budgets for a major construction project, GAF has nearly doubled its pension fund. How the fund operates begins on page 21.



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The International Pension World

The U.K. Government Actuary's Report

by Vincent J. Simone

The total number of individuals who were members of private pension plans in the United Kingdom in 1979 was approximately 11 million. Of these, some 10.3 million were members of plans that contracted-out of the additional component provisions of the state pension scheme. In addition, nearly four million individuals are receiving pension benefits.

This data was supplied by some 3,000 employers and compiled by the U.K. Government Actuary's Department. The Government Actuary received full details from the public sector; thus, the survey was one of the most comprehensive of the series of six surveys conducted by the department over the past 25 years.

Changes since 1975

Since the last survey in 1975, there has been a remarkable increase in the number of women who are members of U.K. pension plans. In 1975, the number was approximately 2.8 million; it is now 3.3 million. The 1978 legislation provided for equal membership in occupational pension plans for men and women. The effect of this requirement on the number of women in plans has been all the greater because in 1978 many employers extended their pension arrangements beyond the traditional, largely male, categories (such as full-time permanent staff employees) in order to take the maximum advantage from the new contracting-out arrangements.

The number of male members of pension plans fell slightly — from 8.6 million in 1975 to 8.5 million in 1979 — partly because some plans, which did not meet the contracting-out requirements, were discontinued. A decrease in the number of men in private sector plans is partly attributable to the transfer of some firms to the public sector, including approximately 100,000 members of plans in the aerospace and shipbuilding industries when they were nationalized.

Growth of schemes since 1936

Table I shows the growth of private pension plans in the U.K. The private sector figures for 1936 are from the Ministry of Labour Gazette of May, 1938. That survey did not cover employees of government departments, local authorities, and the armed forces. The figure of one million in the table for the public sector is an estimate and would seem to suggest that in 1936 only about two-and-a-half million employees were in private pension plans. After the war, the

Table 1 **Employees in Pension Plans (1936-79)**
(millions)

	Private Sector		Public Sector		
Year	Male	Female	Male	Female	All
1936	1.3	0.3	0.8	0.2	2.6
1954	2.5	0.6	2.4	0.7	6.2
1956	3.5	0.8	2.9	0.8	8.0
1963	6.4	0.8	3.0	0.9	11.1
1967	6.8	1.3	3.1	1.0	12.2
1971	6.5	1.3	3.2	1.1	11.1
1975	4.9	1.1	3.7	1.7	11.4
1979	4.7	1.5	3.8	1.8	11.8

Vincent J. Simone is managing director of Godwins (Overseas) Ltd., of Farnborough, England, and editor of the International Benefits Information Service. He has been involved in international benefits for 15 years, both as a consultant and as an officer with a U.S. multinational firm.

Pension coverage is not nearly as widespread among establishments with under 100 employees as with those over that number.

Table II Pensions in Payment (1936-79) (millions)

Year	Private Sector	Public Sector	All
1936	0.1	0.1	0.2
1953	0.2	0.7	0.9
1956	0.3	0.8	1.1
1963	0.7	1.1	1.8
1967	1.0	1.3	2.3
1971	1.3	1.6	2.9
1975	1.3	2.1	3.4
1979	1.4	2.4	3.8

number increased rapidly to more than six million when the Phillips Committee examined the situation in 1954, and it increased to 12 million by 1967. Since then, there has been a small reduction in the proportion of employees covered for pension arrangements in the private sector, but in the public sector the proportion has increased as more members of armed forces and more manual workers and other groups have been covered. (In this article, members of the armed forces are regarded as employees.)

Pensioners

The number of pensions being paid from private plans to former employees has risen over the past 40 years from about 250,000 to over three million, and there are also now about 750,000 widows and dependents receiving pensions. This growth is illustrated in Table II. The number is still slowly growing as plans mature further.

Sector and size of employer

Nearly 40 percent of employees employed in the private sector are members of plans — 50 percent of men and 25 percent of women. In the public sector, 75 percent are covered — 90 percent of men and 55 percent of women. Table III shows how these percentages, taking men and women together, vary for different sizes of firms according to the number of employees, and also how the percentage varies between the public corporations, which mainly consist of the nationalized industries, and central and local government. (A high proportion of part-time employees in education and health service diminishes the percentages for local and national government.)

It is clear from the table that pension coverage is not nearly as widespread among establishments with under 100 employees as with those over that number. In estimating the size of establishments for the purpose of the survey, a group of associated employers or establishments sharing a common pension plan has been classed as a single establishment. On this basis, there are nearly 100,000 employers who have pension plans, but only about 50,000 of them have plans which cover ten or more employees.

Benefits promised to employees

Table IV gives further details of the nature of the pension benefits promised and covers the 11 million members in the U.K. who are entitled to benefits with respect to their current service. The remaining 200,000 are enrolled in plans with their present employers which

Table III Coverage by Sector and Size of Establishment (thousands)

Employees at Establishment (or group of establishments)	Aggregate No. of Employees	No. Whose Employer Has Plan	Members of Plan	Percent Employees Covered
Private Sector				
1-9	1,550	150	90	6%
10-99	4,250	1,800	650	15
100-999	2,720	2,400	1,100	40
1,000-9,999	3,330	3,300	1,900	57
10,000 and over	3,850	3,850	2,460	64
All	15,700	11,500	6,200	39
Public Sector				
Public Corporations	2,060	2,060	1,900	92%
Central Government				
HM Forces	320	320	310	97
Civilian	2,000	2,000	1,540	77
Local Authorities	3,070	3,070	1,850	60
All	7,450	7,450	5,600	75
Grand total	23,150	18,950	11,800	51

Table IV Scale of Pension Benefits (millions)

Sector and Size of Plan	Final-Salary Pension Contracted Out	Not Contracted Out	Other Basis	All
Private Sector				
1-9	0.03	0.12	0.07	0.22
10-99	0.47	0.17	0.11	0.75
100-999	0.89	0.13	0.12	1.14
1,000-9,999	1.40	0.33	0.11	1.84
10,000 and over	1.93	0.18	0.02	2.13
All	4.72	0.93	0.43	6.08
Public Sector				
All	5.50	0.02	—	5.52
Grand Total	10.22	0.95	0.43	11.60

Table V Pensioners According to Pensions Increase 1979 (millions)

Increase	Private Sector	Public Sector	All
No increase, or small, or irregular	0.4	—	0.4
Regular increases of 3% to 5%			
3% or 4%	0.1	—	0.1
5%	0.1	—	0.1
Regular increase of over 5%			
But at less than 55% of inflation rate	0.4	—	0.4
Between 55% and 70% of inflation rate	0.3	—	0.3
Over 70% of inflation rate	0.1	2.4	2.5
All	1.4	2.4	3.8

have been "frozen," so that they no longer are earning benefits with respect to their current service.

The first two columns in Table IV give the numbers of members with pensions related to their earnings at or near retirement — in total, over 11 million. The corresponding total for 1975 was just over ten million. In addition, somewhat more than 1.2 million people were in plans giving benefits not related to salaries at or shortly before retirement. Owing to continuing inflation and the changes made by the Social Security Pensions Act 1975, which required final-salary, or comparable arrangements, for a plan to be contracted out of the additional component of the state pension provisions, arrangements not based on final salaries have become much less common — although 20 years ago they applied to three-quarters of the scheme members in the private sector.

Inflation-proofing after retirement

In the future, the vast majority of plan members can expect to obtain a pension at retirement that takes inflation into account as it is reflected in their salaries before retirement. On the evidence of current practice, however, few in the private sector can expect full protection against inflation after retirement. About three-quarters of current workers can expect some increases, and the state plan will provide additional protection with respect to that part of the plan pension which corresponds to the additional component of the state pension for those who have been contracted out. In the public sector, pensions are generally increased each year in line with the cost of living under the Pension Increase Acts, or, for most of the public corporations, at similar rates. In the private sector, it has tended to be the larger employers who have been granting increases closest to increases in the cost of living. The main change in recent years in private-sector practice has been that many firms which previously gave *ad hoc* increases have changed to a regular annual pattern.

Table V shows the numbers of pensioners who received different annual rates of increase in 1979. In their first year, pensioners will usually not have received the full rate of increase shown. Rates of increase of over five percent are compared with the increase in the retail price index ("the inflation rate") in the 12 months preceding the date of the pension's increase. This itself increased from nine percent in the year ending January, 1979, to 17 percent in the year ending December, 1979.

A full report covering a wider range of subjects than discussed in this article will be published later this year under the title "Occupational Pension Schemes 1979 — Sixth Survey by the Government Actuary." ☐

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Features

Aggressive strategy boosts fund to $225 million **by Ronald Derven** 15
Richard N. Stillman, vice president and treasurer of Stauffer Chemical Co., talks frankly about money manager selection and the investment philosophy that has escalated pension fund returns.

Two contrasting types of real estate equity **by Anthony Downs** 20
Plan sponsors looking into real estate need to differentiate between traditional developer's equity and current institutional equity.

Misuse of actuarially assumed interest rates in determining pension investment policy by C. Allen Stiteler 22
What is the assumed interest rate and how does it affect a pension fund's investment policy and investment manager strategies?

Upgrading the tool kit **by Jeffrey J. Diermeier** 28
A top strategist for The First National Bank of Chicago explains why Modern Portfolio Theory is a reasonable attempt to balance investment risk and return.

Joint action — an answer to controlling care costs **by Joseph H. Rosmann** 45
New approaches are building economic accountability between companies and health care providers, comparable to that found in traditional buyer/supplier relationships.

Toward a National Retirement Income Policy: Priorities for the '80's? **by Dallas Salisbury** 52
The executive director of EBRI discusses the research sufficiency of the findings of the President's Commission on Pension Policy.

10th annual survey of bank pooled pension fund accounts 57
Pension World reports on the investment trends of pooled pension funds: what stocks the banks hold, the favorite fifty, what's dropped in and out.

Pension World Basics: Glossary of investment terms **Part II** **by Eugene Burroughs** 70
Pension World presents Part II of this basic, usable list of terms for investment newcomers — and veterans.

Departments

Guest Editorial 4
Letters to the Editor 6
International Pension World 8
Washington Newsletter 11
Pension News 34
Pension People 38
Meetings & Conventions 40
What Every Fiduciary Should Know 67

Cover: **At Stauffer Chemical's Eastern Research Center, sophisticated instrumentation is used to develop specialty chemicals. "Specialty" is also the watchword for the company's pension investing. See page 15.**

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Toward a National Retirement Income Policy: Priorities for the '80's?

A commentary on research sufficiency of the final report of the President's Commission on Pension Policy.

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The 1980's will mark a period of tremendous challenge for the United States of America. Our nation's economy must be allowed to regain its ability to rebound. For the first time in 30 years, we are faced with the necessity of reducing the scope of government. There is little question that the adjustments will be difficult.

The economic "strength" of our nation is determined by a number of factors. The state of our economy can now be described in terms of a number of these factors, including low economic growth, high inflation, high unemployment, and a deficit-ridden budget.

The respective roles of public and private expenditures are also critical to economic "strength." Our public budgets have become more and more uncontrollable. Public assistance now accounts for about 50 percent of all Federal spending. And, due to dramatic growth of the retired population and the indexing of benefits, spending for Social Security and associated retirement income programs will continue to grow. The renewed focus on defense and international relations is moving us in the direction of reversing many years of spending cutbacks in those areas in favor of dramatic increases in spending. This places even greater budget pressure on "social" programs.

Our nation is attempting to organize itself to rebuild its economy, to increase defense spending, and to minimize spending cuts, particularly in transfer programs such as Social Security. Retirement income policy must be considered in the context of these national realities.

The retired population has traditionally been a protected constituency. The nation has fought to maintain programs for the aged. A major question today is whether the aged will continue to claim an increasing share of expenditures and gross national product, or whether the aged will begin to be faced with program reductions.

Historically, the Federal government has maintained a substantial ongoing interest in the retirement income area. Social Security and Old Age Assistance were established in 1937. The Employee Retirement Income Security Act of 1974 brought Federal regulation to all private pension and welfare benefit programs. 1977 saw passage of major amendments to the Social Security Act. These amendments were to have solved the financial problems of the system well into the next century. Regrettably, they helped to solve the problem for less than a four-year period. This was one factor which caused President Carter to form the President's Commission on Pension Policy in mid-1978.

When creating the Commission, President Carter stressed the tremendous size and scope of retirement programs, the current level of public plan unfunded liabilities, and the need for reforms aimed at the control of costs. In outlining five major areas for the Commission's work, he focused on four areas of research and analysis, and one on reform and organizational changes.

by DALLAS L. SALISBURY
Executive Director
Employee Benefit Research Institute
Washington, D.C.

During the Commission's life, its chairman repeatedly stressed the need for assessing social and economic implications of potential Commission recommendations. Affordability was frequently cited as a primary concern. The Commission directed national attention to retirement income policy issues: a positive contribution in and of itself. Comprehensive research and analysis, however, were lacking in many sections of the final report.

Commission on Pension Policy

The Commission (PCPP) issued its final report on February 26, 1981. The transmittal letter from Chairman McColough to the President and Congress capsulized conclusions of the Commission:

> A crisis exists in our retirement income programs. The nation's retirement programs are dangerously dependent on pay-as-you-go systems such as Social Security. Large tax-supported programs have created an imbalance in the overall system, which has serious implications for the future. The lack of private pension plan coverage for many retirees and inadequate savings for most older Americans place an enormous burden on programs.

Evaluation of the report can take place at two levels. The first, which may be the most frequent, is a reaction to recommendations based upon what one believes the world should look like. The second, which is attempted here, is an assessment of the substantive sufficiency of the report against a number of criteria.

1. Have major research questions regarding benefits, costs and consequences been addressed?
2. Does the report provide sufficient information to allow an understanding of why a particular conclusion was reached?
3. Does the report provide sufficient information to allow one to reach an independent conclusion?

Dimensions of the problem

The Commission reached the following conclusions with regard to the dimensions of the retirement income problem:

- The most pressing problem facing Social Security is its ability to meet future commitments.
- The most serious problem facing the retirement system today is the lack of pension coverage among private sector workers.
- The biggest issue facing public employee pension plans is the cost associated with early retirement ages.
- Employee pension plans can result in seriously inadequate retirement benefits for spouses of deceased or divorced workers.
- A number of problems are caused by the lack of coordination between disability and retirement programs.

The first conclusion is documented in the PCPP report, as well as in final reports of the Universal Social Security Coverage Group (1980), the Advisory Council on Social Security (1980), and the National Commission on Social Security (1981). This comprehensive set of studies allows one to judge the "criteria" as having been met.

The second conclusion cannot be evaluated favorably against the criteria. The report identifies two groups that are susceptible to noncoverage by employee pension programs/employer-sponsored plans: 1) workers who work for employers who do not have pension plans and 2) workers who leave employment before gaining entitlement to pension benefits.

Two factors are not included which would be needed to make the presentation complete and an evaluation against the criteria possible: 1) a dynamic analysis rather than the static numbers provided and 2) distinction between career workers and those with little lifetime tie to work — even though the latter are counted in the work force.

The Commission based its conclusion that the lack of pension coverage was the most serious problem upon analysis of the total work force (age 14-64) and without regard to employment stability. As a major study now being completed by EBRI shows, the coverage situation is very different from what PCPP indicated.

Had the Commission presentation incorporated these factors and had it focused on the "mainstream," full-time workers (age 25, one year of service of at least 1,000 hours), its 45 percent participation figure would move to nearly 70 percent participation.

Dynamic analysis based upon recent data indicates that employer plan coverage is growing and can be expected to do so in the future, as Table I indicates.

Table I **Employer Plan Coverage**

Year	Plan Creation	Per Year
1969-1974	249,789	41,632
1975-1977	47,499	15,033
1978-1980	152,517	50,839

Source: Internal Revenue Service

During 1980, a net of 14,552 new defined benefit plans were formed; 41,511 new defined contribution plans were formed. The average number of participants was 95 and 40, respectively.

Pension plan coverage has substantial room for growth and may be viewed as a problem. Judged against the criteria, however, the basis for the Commission's conclusion is not clear.

The Commission's treatment of public employee pension systems is limited to retirement ages. Its conclusion, that the biggest issue facing plans is the cost associated with early retirement ages, may be correct. But, the presentation is not sufficient to satisfy any of the criteria.

The Commission's treatment surrounding its fourth and fifth conclusions is equally sparse. Assessment against the criteria is not possible.

Remaining sections of "Dimensions of the Retirement Income Problem" provide only limited information which would allow assessment of agreement or disagreement. The list of questions unanswered is long; the list of comparisons that would be desirable is equally long.

The recommendations

Having identified what the Commission believed were principal problems facing our retirement programs, it moved to recommendations. The Commission stated the following principal recommendation as underlying the entire report:

- The Commission believes that the replacement of preretirement disposable income from all sources is a desirable retirement income goal.

The report provided no information on the potential cost of accomplishing this particular goal. The criteria were not met, whatever the merits. A staff working paper which was completed in May, 1979, did provide some estimates of cost. According to that paper, achieving this goal with a 75 percent spouse benefit and age 65 retirement would cost:

Years of Service	Cost as Percent of Payroll
20	45
25	35
30	29
35	24
40	21

There is a tremendous amount of research that would need to be presented to meet the criteria for evaluation. What would be the social and economic benefits, costs and consequences? What benefits might employees lose in order to gain extra retirement income? What segments of the population would benefit? How would this goal compare to that set for other segments of the population?

Having established an umbrella goal, the report turns to recommen-

Table II **Pension Plan Coverage Establishments 1-99 Employees**

	Year and Estimate			DOL Forecasting Model
Industry	**1968**	**1974**	**1977**	**1995**
Manufacturing	32%	46%	50%	55%
Finance	29%	48%	78%	57%
Trade	20%	34%	42%	41%
Services	20%	34%	39%	41%

dations for increasing retirement program coverage.

- The Commission recommends that a Minimum Universal Pension System (MUPS) be established for all workers.

Merits of the proposal aside, use of the word *universal* and stress on *all workers* would indicate that the entire working population (95.4 million) would be included in this mandatory program. This would not be the case since the Commission chose the following minimum standard:

- All employees over the age of 25, with one year of service and 1,000 hours of employment with their employer would be participants in the system. Vesting of benefits would be immediate.

Assuming application to the nonagricultural wage and salary work force, the proposed mandatory system would apply to a maximum of 49.7 million workers. The difference is significant.

The Commission report repeatedly stresses that private pension coverage is "the most serious problem facing the retirement system." The Commission repeatedly stressed that only 45 percent of the total work force was participating in a private pension program. Under reasonable assumptions, MUPS would increase participation to 52 percent of the total work force. Of those workers now meeting the MUPS minimum standard (25-1-1,000), at least 68.3 percent participate in a private pension program.

The Commission's approach raises a number of questions. First, is private pension coverage the major problem? Second, is the word *universal* used appropriately? Third, should the Commission have made it clear that if all current plans adjusted to the MUPS participation standard, participation of the total work force would rise from 45 percent to 52 percent. Fourth, how would the mandatory program help each population group identified above?

The Commission has judged that the ERISA minimum standard — age 25, one year of service, and 1,000 hours of employment — is appropriate criteria for pension participation. This is a judgment with which most witnesses who appeared before the Commission would agree. Discussion of private pension plan coverage should use this minimum standard and focus on the fact that 68.3 percent of the primary work force currently participates in a plan, and 74.1 percent work for an employer having a plan.

The report does not provide sufficient information to reach judgment against the criteria. Additional research and fuller presentation will be needed to assess the merits of mandatory pensions. What are the competitive implications? What are the implications for new business creation and business terminations? What are the implications for the makeup of an employee's total compensation package?

A consistent push for more

The Commission recommendations include a consistent emphasis on allocating additional national resources to retirement income provision.

- The Commission believes that other programs to supplement Social Security's basic floor of protection must be substantially increased.

While this need may exist, the criteria are not satisfied. Cost and consequences analyses are limited. The amount of comprehensive and interactive economic analysis needed to effectively assess the major policy implications would be substantial. Analysis must include assessing the impact on other government expenditures as well as private business expenditures. What programs will be cut back to enable retirement income expenditures to expand?

At a very early stage, the Commission downplayed the potential success of many alternative approaches to increasing retirement income. The Commission's executive director, speaking in Vancouver, B.C., in June, 1979 (only three months after the first meeting of the Commission), noted that tax incentives had not worked in the past and could not be expected to work in the future. The Commission's report presents no research to substantiate this hypothesis, and no working papers were released during the life of the Commission that provided additional insights in this area. The criteria cannot be satisfied. Nonetheless, the Commission concluded:

- Tax incentives, even those proposed by this report, will not significantly increase the pension plan participation of low and moderate income workers and workers employed by small businesses.

This hypothesis deserves to be fully researched and tested before it is used as the basis for justifying major policy changes. Testing would need to be on a dynamic basis, making use of recent data. While limited analysis has been completed, data from the Bureau of Labor Statistics indicates that by 1977 current incentives were having an effect among small employers.

As Table II indicates, Department of Labor projections for 1995 were exceeded by 1977 in certain industries. Plan creation has continued since 1977, with a net of 32,163 new defined benefit plans being formed and a net of 120,357 new defined contribution plans being formed.

The assessment of major policy changes should be based upon most recent data and trends. Only in this way can policy makers be confident of their conclusions.

The Commission's next major group of recommendations focused on spouse benefits.

- Most retirement survivor protection under the pension plan should be mandatory unless there are extenuating circumstances for the couple. The 50 percent joint and survivor options should be provided automatically to the survivors of workers who die in the 10-year period prior to normal retirement age of the plan.

The report does not provide information sufficient to judge the recommendation against the criteria.

The Commission then recommended that Social Security's normal retirement age be raised to 68 and that ERISA be amended to permit private pension plans to do the same. Information on costs and consequences for Social Security was provided. But, what would the implications be for private or public plans? What problems might employers who have retirement ages specified in negotiated contracts have? What effect would such a change have on confidence in the retirement systems themselves?

There is increasing recognition of the importance of pension programs to human resource management and individual employee behavior. A conclusion on the appropriate role of pensions takes on special significance in this context.

- The Commission believes it is inappropriate to use pension plans largely as recruitment, retention and separation devices. The Commission recommends that other methods be found to carry out these functions and that pension programs be used solely to provide retirement income.

This recommendation's implications and consequences for overall employee benefits policy could be substantial. There are numerous issues that should be researched, since the report does not provide sufficient information to satisfy the criteria. What would be the implications for employer incentives to provide various programs? What are the potential effects on programs such as workers' compensation, unemployment compensation, and worker disability? What would be the implications for future plan creation or for plan terminations?

The Commission turned to state and local government plans only briefly, but reached a major conclusion:

- The Commission recommends that a Public Employee Retirement Income Security Act should be enacted covering the same areas of concern as covered by ERISA.

No analysis is included of the proposal's benefits, costs, or consequences. What would be the effect on taxpayers and state and local budgets? What are the tax rate implications? Such analysis is essential if elected officials are to reach reasoned conclusions on such a recommendation.

Overall, the Commission's report raises numerous questions that are not answered about retirement income programs and policy. The report presents a statement of goals, but not sufficient information to assess their appropriateness for national policy.

Strengthening efforts

The Commission concludes its recommendations with a focus on individual efforts and public assistance:

- The Commission recommends that the tax treatment of savings specifically for retirement should be the same as the tax treatment of pension plans. Favorable tax treatment should be extended to employee contributions to pension plans. A refundable tax credit for low and moderate income people to encourage voluntary individual retirement savings and employee contributions to plans are recommended. At the time of tax filing, the employee would choose the higher of a tax deduction or a tax credit. Contributions and benefit limitations for individuals should be treated more consistently for all types of retirement savings.

What are the implications of these recommendations? What results would they bring? There is a substantial amount of research available which indicates that certain tax incentives would be effective in increasing savings for retirement, but it is not presented in the report. What would be the differential impacts on the various population groups described at the beginning of this review?

Many of the same questions arise with regard to proposals for mandatory pensions and new tax incentives. While the recommendations may have merit, the information is not provided to allow a thorough assessment.

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Juxtaposing its series of recommendations for the development of service and earnings related programs, the Commission turns to that segment of the population with little attachment to the work force:

- The Commission recommends Federal SSI benefits be set at the poverty line level and the asset test be eliminated.

The Commission seeks to increase the level of support provided by SSI to very low income individuals with sporadic work histories through these changes. For how many persons would a welfare type redistributive program be the best means of reasonably assuring an adequate income in post-working years? How does this recommendation integrate with others? Why is the poverty line used as the relevant measure for these persons, while the BLS Intermediate Budget is used as the minimum adequacy level elsewhere?

The Commission's report leaves many substantive questions unanswered. Little information is provided on costs, consequences, affordability, and implications for other areas of national policy. The report may confuse rather than clarify the current status of public and private employer-sponsored pension programs.

Financing the program

The report contains a brief section on the costs of its recommendations. The section does not allow an assessment of underlying assumptions or calculation methods. It does not provide a basis for evaluating how much future government expenditures could decrease if the program were adopted, or potential implications of individual and organizational behavioral changes.

The Commission recognized the "illustrative" nature of its estimates, noting: "The exact values of these estimates are highly dependent on the details and the implementation of specific proposals adopted." It also restated its principal concerns in this section:

- The Commission feels that our nation's retirement income programs are dangerously dependent on pay-as-you-go systems, such as Social Security, supplemental security income, and in-kind benefit programs. Large tax-supported programs have created an imbalance in the overall system, which has serious policy implications for the future. It should also be noted that lack of pension plan coverage for many retirees and inadequate retirement savings for most older Americans place an enormous burden on these programs.

> *"The difficulty lies not in the new ideas, but in escaping from the old ones."*
>
> *John Maynard Keynes*
> *The General Theory*

The Commission's presentation leaves room for further research regarding financing. The report states that "the only new expense that the Commission recommends is an increase in SSI benefit levels to the poverty line." This does not appear to be the only area for potential additional costs. Included in a listing for further analysis would have to be:

- Minimum Universal Pension System
- Integration changes
- Spouse benefit changes
- Universal Social Security
- Tax treatment changes for Social Security
- Individual savings tax incentives
- Employment of older workers
- Disability changes
- PERISA

The report states that "Federal expenditures for tax-supported, inkind benefit programs such as food stamps, Medicaid and housing assistance could also be expected to decline as the recommendations take full effect." Would a full analysis of age and wage demographics of the work force indicate that such an assessment is correct? The Commission report provides no research basis to allow one to determine the answers. Such research and analysis is essential for elected officials to reach conclusions. The financing section is not sufficient to meet the initial research criteria.

Priorities for the '80's

The Commission's work represented a monumental effort. Given the substantive breadth and scope they were asked to study, a great deal was accomplished. But, not enough for one to reasonably make decisions affecting the entire American population. The Commission's final report and working papers leave much to be explored. This was made clear by researchers at the Commission's January "Research Conference." Substantial behavioral, benefits, and economic research must still be undertaken. Research regarding the effect of tax incentives is only now beginning. The results of major studies started by the Commission are not yet available.

The Commission's recommendations, were they adopted, could have significant implications for the public and private sectors for:

- the cost of doing business
- the level of employment and new job creation
- the pattern of new business creation
- the scope of government regulation
- future prospects for government mandating of programs
- levels of overall Federal taxation
- distribution of tax incentives amongst and between government programs
- the proportion of gross national product dedicated to retirement income programs
- makeup of the total compensation package

and much more.

There may be areas in which enough is now known, but care should be the watchword.

The Commission's recommendations set out a framework that should be analyzed and conceptually tested. The Commission has given us many questions that should be answered. Priority must be given to new research and analysis, with all parties aiming towards a national retirement income policy based upon solid facts and comprehensive understanding. But, we must move in that direction during the '80's based upon an understanding of the consequences for other national needs and priorities. Before the nation moves to a major restructuring of present programs, more must be known. We are dealing, after all, with the future of every American. ☐

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Tenth annual survey of bank pooled pension fund accounts

Some shifting of funds occurred in 1980, according to *Pension World's* 1981 bank pooled pension fund statistics, but there appear to be few surprises. Cash, which last year accounted for 31.5 percent of assets, now accounts for 38.9 percent of the funds and has overtaken common stocks as the most popular investment medium.

Although 63 percent of last year's respondents noted that they intended to increase stock holdings in 1980, the percentage invested in common stocks has decreased for the fourth year in a row, from 85 percent in the 1978 survey to 49 percent in 1979, 39.7 percent in 1980, and 34.08 percent in the 1981 report. Again, however, 63.5 percent of the banks expect to increase their common stock holdings in 1981, while 5.89 percent expect to decrease holdings, and 22.35 percent plan to hold even.

This year's universe of 113 pooled pension fund accounts held by 85 banks invested the remainder of assets in corporate bonds (11.5 percent), real estate (3.27 percent), government bonds and agencies (2.53 percent), and a combination of smaller holdings totaling 1.68 percent. Assets in the 113 pooled accounts total $21.1 billion.

In the 1978 and 1979 surveys, the drop-outs outnumbered the drop-ins. The 1980 survey showed a reversal of this trend, and 1981 continues the new pattern: drop-ins outnumber the drop-outs, 125 to 93. High technology stocks are by far the most prominent drop-ins, and almost every industry is represented in the drop-outs.

The range of stock holdings continues to expand. In 1979, 549 different stock issues were listed in the survey; in 1980, 883 stocks were listed; in this year's survey, stock assets are spread among 1,047 companies.

Fourteen stocks are newcomers to this year's Favorite Fifty list. Mobil Corp. made the most significant new appearance, placing at 15. IBM remains in the top spot, although the percentage of funds that hold it has decreased from 86.7 percent in the 1980 report to 66.4 percent this year. Atlantic Richfield also retained its position as number two, and all of last year's top 10 are in the top 12 this year, except K-mart, which dropped from nine to 21. Energy-related stocks, as a class, remain the favorites, with 10 of the top 50 being oil stocks.

According to statistics published by Computer Directions Advisors, Inc., bank pooled common stock funds have lost some ground to the S&P 500, though both groups continue to perform solidly. For the year ending December 31, 1979, CDA reported the S&P 500 was up 18.5 and the bank pooled common stocks showed a gain of 20.3 for the same period. This year, according to the December 1980 report on "Bank Pooled Funds," published by CDA, the S&P 500 was up 32.5 percent, and the bank pooled common stocks gained 29.6 percent for the year ending December 31, 1980.

What stocks they hold

Stock	% of Funds Holding	Number of Shares Held
Abbott Laboratories	17.7	350,496
ACF Industries	5.3	43,620
Acme-Cleveland Corp.	4.4	16,800
Adobe Oil & Gas Corp.	2.7	11,500
Advanced Micro Devices	1.8	26,360
Aetna Life & Casualty Co.	10.6	453,314
Ahmanson (H. F.) & Co.	4.4	83,800
Air Products & Chemicals	4.4	70,000
Airborne Freight Corp.	1.8	14,600
Akzona	3.5	46,300
Albany International	0.9	1,600
Alberto-Culver Co.	3.5	16,200
Alcan Aluminum Ltd.	8.8	390,826
Alexander & Alexander Services	2.7	81,700
Allegheny Ludlum Industries	0.9	20,000
Allied Bancshares	1.8	39,168
Allied Chemical Corp.	14.2	259,033
Allied Stores Corp.	8.0	130,500
Allis-Chalmers Corp.	8.0	146,800
Alpha Portland Industries	2.7	6,300
Aluminum Co. of America	14.2	229,158
Amalgamated Sugar Co.	2.7	7,600
Amarex	0.9	28,000
AMAX	8.8	329,739
Amdahl Corp.	0.9	2,600
Amerada Hess Corp.	8.0	90,595
American Airlines	2.7	96,100
American Brands	7.1	170,231
American Broadcasting Cos.	13.3	265,083
American Can Co.	8.8	188,317
American Cyanamid Co.	8.8	223,040
American District Telegraph Co.	0.9	1,100
American Electric Power Co.	7.1	514,879
American Express Co.	16.8	490,753
American General Insurance Co.	5.3	144,200
American Home Products Corp.	22.1	1,034,571
American Hospital Supply Corp.	12.4	211,121
American International Group	10.6	218,650
American Medical International	10.6	283,685
American Motors Corp.	3.5	122,200
American National Insurance Co.	0.9	21,500
American Natural Resources Co.	6.2	84,700
American Standard	10.6	358,200
American Stores Co.	5.3	78,936
American Tel. & Tel. Co.	43.4	3,755,678
AMF	6.2	239,500
AMP	12.4	291,768
Ampex Corp.	0.9	13,600
Amstar Corp.	5.3	44,100
Amsted Industries	8.0	96,000
Analog Devices	0.9	16,000
Analogic Corp.	0.9	20,000
Andrew Corp.	0.9	30,000
Anglo Co., Ltd.	0.9	30,000
Anheuser-Busch	9.7	254,994
Apple Computer	2.7	19,850
Applicon	0.9	10,000
Applied Materials	0.9	7,500
ARA Services	8.0	54,800
Archer Daniels Midland Co.	8.0	191,182
Arizona Bank	0.9	17,600
Arkansas Louisiana Gas Co.	2.7	47,000
Armco	12.4	310,909
Armstrong Cork Co.	1.8	80,000
Armstrong World Industries	5.3	82,997
Arrow Electronics	0.9	200
ASA, Ltd.	5.3	73,501
ASARCO	8.0	143,611
Associated Dry Goods Corp.	6.2	115,200
Atlantic Richfield Co.	58.4	1,836,112
Audin Corp.	0.9	34,300
Augat	3.5	88,800
Automatic Data Processing	6.2	51,100
Avantek	1.8	30,000
Avery International Corp.	0.9	1,400
Avnet	0.9	7,100
Avon Products	15.0	449,588
Baker International Corp.	15.0	492,736
Ball Corp.	0.9	5,600
Baltimore Gas & Electric Co.	4.4	116,200
Bancorp Hawaii	0.9	31,000
Bandag	0.9	36,000
Bankamerica Corp.	19.4	767,043
Bankers Trust New York Corp.	4.4	73,406
Bantec	1.8	71,250
Barber-Greene Co.	0.9	5,400
Bard (C. R.)	3.5	36,700
Barnett Banks of Florida	0.9	32,500
Bausch & Lomb	4.4	45,000
Baxter Travenol Laboratories	16.8	397,884
BBDO International	1.8	20,800
Beatrice Foods Co.	16.8	841,753
Beckman Instruments	7.1	106,400
Becton, Dickinson & Co.	7.1	116,300
Beker Industries Corp.	2.7	43,700
Belco Petroleum Corp.	0.9	16,000
Belden Corp.	1.8	750
Bell & Howell	1.8	17,100
Bemis Co.	4.4	14,850
Bendix Corp.	8.0	115,548
Beneficial Corp.	6.2	141,500
Bergen Brunswig Co.	0.9	17,490
Best Products Co.	4.4	75,933
Bethlehem Steel Corp.	8.8	311,395
Betz Laboratories	2.7	15,400
Bic Pen Corp.	0.9	1,500
Big Three Industries	3.5	31,500
Binney & Smith	0.9	7,031
Black & Decker Manufacturing Co.	8.8	216,576
Block (H. & R.)	1.8	88,900
Blue Bell	7.1	112,500
Boeing Co.	21.2	826,310
Boise Cascade Corp.	7.1	109,768
Borden	7.1	128,895
Borg-Warner Corp.	8.8	92,934
Bowne & Co.	0.9	6,400
Bradford National Corp.	0.9	36,200
Briggs & Stratton Corp.	8.8	88,000
Bristol-Myers Co.	24.8	715,285
Brock Hotel Corp.	0.9	43,800
Brooklyn Union Gas Co.	3.5	27,300
Brown & Sharpe Mfg. Co.	2.7	11,200
Brown Co.	1.8	1,900
Brown-Forman Distillers Corp.	1.8	45,000
Brown Group	4.4	29,300
Browning Ferris Industries Co.	8.0	113,400
Brunswick Corp.	4.4	113,700
Bucyrus-Erie Co.	7.1	98,032
Bunker Ramo Corp.	2.7	56,000
Burlington Industries	11.5	305,460
Burlington Northern	8.8	175,150
Burndy Corp.	0.9	30,000
Burns International Services	0.9	6,000
Burnup & Sims	0.9	7,500
Burroughs Corp.	17.7	269,314
Buttes Gas & Oil Co.	0.9	3,000
C3	0.9	55,000
Cabot Corp.	0.9	600
Caldor	1.8	87,000
Cameron Iron Works	1.8	304,000
Campbell Red Lake Mines Ltd.	5.3	62,300
Campbell Soup Co.	7.1	147,083
Canadian Pacific Ltd.	4.4	164,100
Capital Cities Communications	12.4	127,800
Capital Holding Corp.	10.6	143,534
Carnation Co.	7.1	155,240
Carolina Power & Light Co.	4.4	30,800
Carpenter Technology Corp.	1.8	29,000
Carter Hawley Hale Stores	8.0	141,306
Caterpillar Tractor Co.	31.0	665,958
CBI Industries	0.9	4,000
CBS	12.4	169,536
CECO Corp.	0.9	1,600
Celanese Corp.	5.3	59,263
Centex Corp.	6.2	128,800
Central & Southwest Corp.	7.1	372,426
Central Louisiana Energy Corp.	1.8	24,000
Central Tel. & Utilities Corp.	8.0	129,844
Certainteed Corp.	0.9	2,300
Champion International Corp.	14.2	469,125
Champion Spark Plug Co.	7.1	191,300
Charles River Breeding Labs.	0.9	13,500
Charter Co.	0.9	4,100
Chase Manhattan Corp.	8.8	242,215
Chem-Lawn Corp.	0.9	4,350
Chemical New York Corp.	7.1	111,044
Chesebrough-Pond's	12.4	261,000
Chessie System	1.8	36,300
Chicago Pneumatic Tool Co.	4.4	46,300
Chomerics	0.9	2,000
Chrysler Corp.	1.8	39,900
Chubb Corp.	7.1	128,500
Church's Fried Chicken	4.4	49,600
Cincinnati Gas & Electric Co.	1.8	12,300
Cincinnati Milacron	7.1	103,300
Citicorp	14.2	521,643
Cities Communications	0.9	1,000
Cities Service Co.	8.8	404,491
City Investing Co.	0.9	9,500
City National Corp.	0.9	54,000
Clark Equipment Co.	9.7	123,650
Clark (J. L.) Manufacturing Co.	0.9	45,000
Cleveland Cliffs Iron Co.	0.9	10,600
Clorox Co.	4.4	217,600
Cluett, Peabody & Co.	5.3	51,000
CNA Financial Corp.	2.7	163,101
Cobe Laboratories	0.9	60,000
Coca-Cola Bottling Co. of N.Y.	4.4	84,800
Coca-Cola Co.	16.8	568,757
Colgate-Palmolive Co.	13.3	646,660
Collins & Aikman Corp.	1.8	92,100
Colonial Penn Group	1.8	1,000
Color Tile	2.7	103,500
Colt Industries	0.9	27,000
Columbia Gas System	6.2	126,471
Columbia Pictures Industries	4.4	83,400
Combined International Corp.	2.7	20,128
Combustion Engineering	9.7	183,478
Comcast Corp.	0.9	40,000
Commerce Clearing House	0.9	50,000
Commonwealth Edison Co.	9.7	701,520
Community Psychiatric Centers	2.7	41,800
Compact Video System	0.9	3,000
Compugraphic Corp.	1.8	10,700
Computer Sciences Corp.	0.9	5,000
Computervision Corp.	0.9	4,500
Cone Mills Corp.	3.5	21,700
Conn. Gen. Insurance Corp.	7.1	158,413
Conoco	23.0	795,181
Con. Edison Co. of N.Y.	7.1	442,029
Consolidated Foods Corp.	2.7	58,400
Consolidated Freightways	9.7	175,600
Consolidated Natural Gas Co.	5.3	70,787

Stock	% of Funds Holding	Number of Shares Held
Consolidated Paper	1.8	6,000
Continental Corp.	5.3	363,390
Continental Group	10.6	217,953
Continental Illinois Corp.	9.7	200,786
Continental Oil	0.9	6,000
Continental Telephone Corp.	8.0	215,403
Control Data Corp.	9.7	99,600
Cooper Industries	11.5	158,314
Cooper Tire & Rubber Co.	0.9	3,800
Coors (Adolph) Co.	5.3	140,015
Copeland Corp.	5.3	24,100
Corning Glass Works	9.7	111,656
Cox Broadcasting Corp.	6.2	108,300
CP National Corp.	0.9	5,000
CPC International	13.3	137,200
CPT Corp.	1.8	161,250
Crane Co.	5.3	41,400
Cray Research	0.9	20,000
Criton Corp.	0.9	4,500
Crompton & Knowles Corp.	0.9	1,400
Cross & Trecker Corp.	0.9	37,500
Cross (A. T.) Co.	2.7	49,300
Crouse-Hinds Co.	4.4	50,271
Crown Cork & Seal Co.	6.2	67,250
Crown Zellerbach Corp.	9.7	180,207
Crum & Forster	0.9	4,000
Crutcher Resources Corp.	1.8	139,000
CSX Corp.	8.8	212,613
CTS Co.	1.8	44,000
Cummins Engine Co.	7.1	36,646
Curtice-Burns	0.9	8,000
Cyclotron Corp.	0.9	1,000
Dana Corp.	9.7	167,660
Dart Industries	13.3	352,898
Data Card Corp.	0.9	7,500
Data General Corp.	4.4	37,900
Datapoint Corp.	9.7	132,300
Dataproducts Corp.	0.9	38,900
Dataram Corp.	0.9	10,000
Dayton-Hudson Corp.	14.2	297,500
Deere & Co.	17.7	585,652
DeKalb AG Research	1.8	19,000
De Luxe Check Printers	2.7	4,000
Delmed	0.9	50,000
Delta Air Lines	10.6	206,346
Dennison Manufacturing Co.	0.9	12,600
Denny's	7.1	178,200
Deposit Guaranty Corp.	0.9	21,700
Detroit Edison Co.	4.4	391,163
Diamond International Corp.	5.3	62,310
Diamond Shamrock Corp.	8.0	95,730
Dickey John	0.9	500
Diebold	2.7	32,200
Digital Equipment Corp.	27.4	389,494
Disney (Walt) Productions	15.0	225,064
Dr. Pepper Co.	6.2	102,800
Dome Mines Ltd.	5.3	68,000
Dome Petroleum Ltd.	3.5	32,900
Donaldson Co.	0.9	68,000
Donnelley (R. R.) & Sons	1.8	1,200
Dorchester Gas Corp.	0.9	5,000
Dover Corp.	5.3	117,000
Dow Chemical Co.	18.5	1,248,438
Dow Jones & Co.	5.3	72,650
Doyle Dane Bernbach	0.9	10,000
Dravo Corp.	0.9	12,000
Dreco Energy Services Ltd.	0.9	8,725
Dresser Industries	17.7	469,808
Dreyfus Corp.	0.9	1,000
Duke Power Co.	9.7	427,204
Dun & Bradstreet Cos.	13.3	168,650
DuPont (E. I.) de Nemours & Co.	23.9	1,015,616
Duquesne Light Co.	0.9	1,700
Eastern Airlines	0.9	3,000
Eastern Gas & Fuel Associates	5.3	145,300
Eastman Kodak Co.	37.2	1,211,708

Stock	% of Funds Holding	Number of Shares Held
Eastmet Corp.	2.7	183,000
Eaton Corp.	10.6	229,428
Echlin Manufacturing Co.	5.3	127,000
Eckerd (Jack) Corp.	15.9	176,320
Economics Laboratory	1.8	127,000
Edison Brothers Stores	1.8	27,600
EG&G	1.8	45,800
El Paso Co.	7.1	202,305
Electro-Nucleonics	0.9	80,000
Electronic Data Systems Corp.	3.5	110,000
Emerson Electric Co.	16.8	503,141
Emery Air Freight	7.1	115,900
Emhart Corp.	0.9	1,750
Empire Pencil Corp.	0.9	7,500
Energy Reserves Group	2.7	30,000
Engelhard Minerals & Chemicals Corp.	17.7	473,434
ENSERCH Corp.	9.7	185,300
Entex	0.9	53,900
Envirotech Corp.	2.7	16,900
Epso	0.9	15,000
Equitable Gas Co.	0.9	700
Equitable S & L Assn. of Oregon	0.9	15,000
E-Systems	0.9	19,666
Esmark	6.2	83,625
Esterline Corp.	1.8	46,000
Ethyl Corp.	1.8	31,500
Evans Products Co.	4.4	145,000
Ex-Cello-O Corp.	8.0	94,400
Exxon Corp.	50.4	2,842,551
Faberge	3.5	21,900
Fairchild Industries	1.8	12,200
Farmers Group	0.9	12,200
Fedders Corp.	0.9	5,200
Federal Co.	0.9	6,000
Federal Express Corp.	4.4	183,900
Federal Mogul Corp.	2.7	82,144
Federal National Mortgage Assn.	5.3	162,900
Federal Paper Board Co.	3.5	26,800
Federated Department Stores	12.4	280,623
Fieldcrest Mills	0.9	1,400
Firestone Tire & Rubber Co.	6.2	242,600
First Bank System	3.5	123,430
First Charter Financial Corp.	7.1	202,424
First Chicago Corp.	4.4	185,000
First City Bancorporation of Texas	2.7	69,900
First International Bancshares	8.8	149,550
First Kentucky National Corp.	0.9	21,500
First Mississippi Corp.	3.5	81,000
First National Boston Corp.	5.3	53,100
First Pennsylvania Corp.	1.8	51,600
Fleetwood Enterprises	6.2	147,000
Fleming Cos.	1.8	33,500
Flexi-Van Corp.	0.9	13,000
Flightsafety International	3.5	59,950
Floating Point System	0.9	2,500
Florida National Banks of Florida	0.9	35,000
Florida Power & Light Co.	13.3	237,914
Florida Steel Corp.	0.9	29,475
Fluke (John) Manufacturing Co.	0.9	38,500
Fluor Corp.	10.6	262,100
FMC Corp.	8.0	195,706
Foote, Cone & Belding Communications	0.9	9,000
Foothill Group	0.9	50,000
Ford Motor Co.	9.7	770,023
Fort Howard Paper Co.	2.7	23,000
Foster Wheeler Corp.	9.7	239,220
Four Phase Systems	2.7	60,400
Fox (Stanley) Photo Products	0.9	81,300
Foxboro Co.	2.7	13,800
Freeport Minerals Co.	8.0	21,750
Fruehauf Corp.	4.4	64,800
Gannett Co.	16.8	224,356
Gates Lear Jet Corp.	0.9	25,410
GCA Corp.	2.7	14,400

Stock	% of Funds Holding	Number of Shares Held
Gelco Corp.	2.7	166,750
Gen. Amer. Oil Co. of Texas	7.1	125,093
General Automotive Parts Corp.	3.5	56,300
General Binding Corp.	0.9	20,000
General Cinema Corp.	1.8	33,300
General Datacomm Industries	0.9	37,500
General Defense Corp.	0.9	65,000
General Dynamics Corp.	8.8	240,050
General Electric Co.	46.9	1,430,824
General Foods Corp.	10.6	248,049
General Instruments Corp.	2.7	36,200
General Mills	10.6	274,188
General Motors Corp.	21.2	1,682,168
General Portland Cement Co.	6.2	42,500
General Reinsurance Corp.	3.5	45,200
General Signal Corp.	12.4	186,000
General Tel. & Elec. Corp.	11.5	993,609
Genesco	0.9	6,100
GenRad	1.8	30,700
Genuine Parts Co.	7.1	176,250
Georgia-Pacific Corp.	14.2	538,226
Geosource	0.9	4,300
Gerber Products Co.	4.4	35,400
Getty Oil Co.	17.7	452,308
Giddings & Lewis	4.4	45,298
Gillette Co.	8.8	185,181
Gino's	2.7	10,700
GK Technologies	6.2	54,900
Global Marine	6.2	169,200
Golden West Financial Corp.	3.5	180,500
Goodrich (B. F.) Co.	4.4	85,900
Goodyear Tire & Rubber Co.	8.0	479,269
Gould	8.8	144,308
Grace (W. R.) & Co.	7.1	211,940
Graco	0.9	45,000
Grainger (W. W.)	2.7	78,000
Great Atlantic & Pacific Tea Co.	1.8	12,600
Great Lakes Chemical Corp.	0.9	7,000
Great Northern Nekoosa Corp.	0.9	12,500
Great Western Financial Corp.	7.1	188,900
Greyhound Corp.	0.9	6,700
Grumman Corp.	4.4	104,460
Guaranty National Corp.	0.9	13,633
Guardian Industries Corp.	1.8	16,600
Gulf & Western Industries	5.3	235,524
Gulf Canada Ltd.	4.4	127,000
Gulf Interstate Co.	1.8	107,000
Gulf Oil Corp.	15.0	1,001,828
Gulf States Utilities Co.	1.8	4,000
Gulf United Corp.	1.8	142,800
Hall (Frank B.) & Co.	0.9	28,500
Halliburton Co.	34.5	838,358
Hammermill Paper Co.	1.8	1,500
Handleman Co.	3.5	81,100
Hanna Mining Co.	1.8	20,200
Harcourt Brace Jovanovich	6.2	97,300
Harland (John C.) Co.	0.9	900
Harper Group	1.8	64,200
Harris Corp.	11.5	254,800
Hart Schaffner & Marx	3.5	31,600
Harte-Hanks Communications	3.5	67,600
Hasbro Industries	0.9	7,500
Heck's	1.8	12,900
Heinz (H. J.) Co.	11.5	158,208
Heller (Walter E.) International	5.3	94,000
Helmerich & Payne	1.8	9,000
Henredon Furniture Industries	0.9	4,000
Hercules	10.6	227,300
Hershey Foods Corp.	6.2	59,500
Heublein	12.4	243,500
Hewlett-Packard Co.	15.9	325,084
Hexcel Corp.	1.8	2,500
Hi-Shear Corp.	0.9	2,000
High Voltage Engineering Corp.	0.9	75,000
Hilton Hotels Corp.	10.6	248,792
Hobart Corp.	7.1	81,100

Stock	% of Funds Holding	Number of Shares Held
Holiday Inns	8.8	236,200
Holly Sugar Corp.	2.7	6,000
Homestake Mining Co.	6.2	79,750
Honeywell	15.0	139,991
Hospital Corp. of America	15.9	346,398
Household Finance Corp.	9.7	299,578
Houston Industries	4.4	67,100
Houston Natural Gas Corp.	5.3	42,200
Houston Oil & Minerals Corp.	5.3	235,800
Hubbell (Harvey), Class B	0.9	46,200
Hudson Bay Mining and Smelting	2.7	37,200
Hughes Tool Co.	19.4	298,056
Humana	8.8	170,647
Hunt (Philip A.) Chemical Corp.	0.9	7,500
Hunt Manufacturing Co.	0.9	10,000
Hutton (E. F.) Group	0.9	18,750
Hyster Co.	3.5	44,240
IC Industries	6.2	81,400
Ideal Basic Industries	8.0	83,247
Ideal Toy Corp.	2.7	16,405
Illinois Power Co.	2.7	9,800
Imperial Corp. of America	0.9	12,200
Imperial Oil Ltd.	1.8	12,900
IMS International Corp.	0.9	25,000
INA Corp.	9.7	298,104
Inco Ltd.	8.8	376,484
Indianapolis Power & Light Co.	0.9	5,200
Industrial National	0.9	800
Inexco Oil Co.	1.8	180,000
Ingersoll-Rand Co.	8.0	105,446
Inland Steel Co.	6.2	118,861
Instrumentation Laboratory	1.8	58,500
Intel Corp.	11.5	238,972
Interco	7.1	79,500
Interlake	4.4	36,968
International Business Machines	66.4	3,714,290
International Flavors & Fragrances	8.0	185,201
International Harvester Co.	5.3	149,625
International Minerals & Chemicals Corp.	11.5	199,550
International Paper Co.	13.3	274,246
International Rectifier Corp.	0.9	90,000
International Tel. & Tel. Corp.	19.4	913,635
Internorth	5.3	164,578
Interpublic Group of Companies	3.5	96,700
Iowa Beef Processors	6.2	117,200
Irving Bank Corp.	0.9	16,400
IU International Corp.	1.8	26,800
James (Fred S.) & Co.	0.9	60,000
Jefferson Pilot Corp.	8.8	113,553
Jerrico	0.9	4,100
Jewel Cos.	7.1	57,500
Johns-Manville Corp.	8.8	268,408
Johnson & Johnson	19.4	425,068
Johnson Controls	1.8	10,800
Josten's	0.9	18,000
Joy Manufacturing Co.	11.5	108,819
Justin Industries	0.9	8,750
JWT Group	3.5	26,475
Kaiser Aluminum & Chemical	10.6	311,682
Kaiser Cement Corp.	0.9	50,700
Kaneb Services	3.5	23,300
Kansas City Southern Industries	0.9	31,300
Kaufman & Broad	2.7	45,801
Kellogg Co.	8.0	357,497
Kellwood Co.	0.9	30,000
Kenai Corp.	0.9	1,500
Kennecott Corp.	8.0	189,546
Kerr-McGee Corp.	4.4	21,800
Kidde (Walter) & Co.	1.8	7,150
Kimberly Clark Corp.	10.6	268,547
Kinder-Care Learning Centers	0.9	62,500
K-mart Corp.	24.8	865,586
Knight-Ridder Newspapers	4.4	28,000
Koehring Co.	0.9	400
Koger Properties	1.8	160,000
Kollmorgen Corp.	0.9	5,000
Koppers Co.	2.7	18,000
Kraft	0.9	6,700
Kroehler Manufacturing Co.	0.9	600
Kroger Co.	7.1	182,000
Kroy Industries	0.9	8,000
Kyoto Ceramic Ltd.	0.9	30,000
Lance	1.8	8,750
Lane Co.	0.9	1,300
Lanier Business Products	2.7	53,700
Lawson Products	0.9	30,000
Lawter Chemical	1.8	40,000
Lear Petroleum	0.9	5,000
Lear Siegler	2.7	73,000
Leaseway Transportation Corp.	3.5	97,000
Leggett & Platt	0.9	50,600
Lenox Industries	4.4	27,150
Leslie Fay	0.9	13,400
Levi Strauss & Co.	11.5	271,800
Libbey-Owens-Ford Co.	4.4	109,500
Liberty Corp.	0.9	2,400
Liberty National Life Ins. Co.	1.8	12,000
Lifemark Corp.	0.9	8,800
Lilly (Eli) & Co.	21.2	481,521
Lin Broadcasting Corp.	1.8	76,000
Lincoln National Corp.	10.6	162,451
Litton Industries	7.1	202,733
Loews Corp.	1.8	4,100
Logan (Jonathan)	2.7	19,185
Lomas & Nettleton Financial Corp.	0.9	50,000
Lone Star Industries	7.1	53,354
Longs Drug Store	2.7	51,900
Longview Fibre Co.	0.9	3,000
Loral Corp.	6.2	42,900
Louisiana Land & Exploration Co.	8.0	170,500
Louisiana Pacific Corp.	7.1	142,149
Louisville Gas & Electric Co.	0.9	500
Lowe's Cos.	3.5	55,720
Lowenstein (M.) & Sons	2.7	12,600
Lubrizol Corp.	12.4	132,800
Lucky Stores	8.8	258,880
M/A-Com	5.3	193,500
Macke & Co.	3.5	16,600
MacMillan	4.4	117,000
MacMillan Bloedel Ltd.	0.9	15,000
Macy (R. C.) & Co.	7.1	155,007
Magma Power Co.	0.9	15,000
Magnuson Computer Systems	0.9	11,000
Mallinckrodt	2.7	44,200
Malone & Hyde	0.9	23,320
Management Assistance	1.8	94,000
Manitowoc Co.	0.9	10,000
Manufacturers Hanover Corp.	5.3	138,071
MAPCO	6.2	53,107
Marathon Oil Co.	8.8	75,700
Marion Corp.	0.9	2,000
Marley Co.	0.9	5,500
Marriott Corp.	5.3	103,509
Marsh & McLennan Cos.	8.0	97,000
Marshall Field & Co.	4.4	137,100
Martin Marietta Corp.	8.8	158,750
Maryland Cup Corp.	3.5	25,666
Masco Corp.	3.5	152,700
Masonite Corp.	6.2	108,148
Massey-Ferguson	1.8	10,800
Materials Research Corp.	0.9	14,000
Mattel	0.9	10,000
May Department Stores Co.	8.0	164,340
May Petroleum	1.8	35,500
Maytag Co.	9.7	161,100
MCA	13.3	177,078
McCormick & Co.	3.5	26,484
McDermott (J. Ray) & Co.	8.8	204,842
McDonald's Corp.	21.2	246,544
McDonnell Douglas Corp.	8.8	234,927
McFarland Energy	0.9	16,000
McGraw-Edison Co.	7.1	138,300
McGraw-Hill	9.7	193,600
MCI Communications	0.9	85,000
McLean Trucking Co.	2.7	52,300
McRae Consolidated Oil & Gas	0.9	63,000
Mead Corp.	6.2	326,000
Measurex Corp.	6.2	107,100
Media General	0.9	9,000
Medtronic	8.8	296,000
MEI Corp.	0.9	88,300
Mellon National Bank	3.5	67,100
Mellon National Corp.	1.8	52,700
Melville Corp.	7.1	102,979
Mercantile Stores Co.	0.9	300
Merck & Co.	30.1	580,686
Meredith Corp.	3.5	11,900
Merrill Lynch & Co.	1.8	6,000
Mesa Petroleum Co.	8.0	264,800
Mesa Royalty Trust	1.8	23,800
Metro-Goldwyn-Mayer Film Co.	5.3	130,883
Metromedia	5.3	28,200
Meyer (Fred)	0.9	2,121
MGIC Investment Corp.	6.2	113,600
Middle South Utilities	6.2	523,893
Midland Ross Corp.	0.9	12,000
Miller (Herman)	0.9	5,000
Miller-Wohl Co.	1.8	71,500
Millipore Corp.	7.1	122,100
Milton Bradley Co.	7.1	72,700
Minerals & Resources Corp.	0.9	7,300
Minnesota Mining & Mfg. Co.	26.5	823,743
Missouri Pacific Railroad Co.	5.3	72,500
Mitchell Energy & Development	3.5	19,000
Mobil Corp.	28.3	1,350,627
Modular Computer Svc. Systems	0.9	13,000
Mohasco Corp.	3.5	24,800
Monarch Capital Corp.	0.9	200
Monarch Machine Tool Co.	2.7	12,600
Monogram Industries	1.8	28,000
Monolithic Memories	1.8	10,000
Monsanto Co.	15.9	251,631
MONY Mortgage Investors	0.9	27,000
Moog	1.8	117,200
Moore McCormack Resources	0.9	37,500
Moran Energy	0.9	71,736
Morgan (J. P.) & Co.	17.7	325,038
Morrison's	0.9	1,450
Morrison-Knudsen Co.	3.5	44,400
Morton-Norwich Products	2.7	83,000
Motorola	15.0	294,530
MTS Systems Corp.	0.9	4,000
Murphy Oil Corp.	3.5	38,500
Nabisco	8.8	546,512
Nalco Chemical Co.	2.7	55,400
National Can Corp.	5.3	45,100
National City Bancorporation	2.7	4,400
National Convenience Stores	0.9	54,000
National Detroit Corp.	0.9	32,000
National Distillers & Chemical	6.2	230,600
National Gypsum Co.	5.3	197,400
National Medical Care	6.2	628,250
National Medical Enterprises	5.3	107,072
National Semiconductor Corp.	12.4	263,850
National Service Industries	0.9	1,700
National Steel Corp.	6.2	346,880
Natomas Co.	2.7	172,975
NCNB Corp.	3.5	120,651
NCR Corp.	14.2	219,600
Network System Corp.	0.9	1,340
New England Electric System	4.4	74,800
New England Nuclear Corp.	2.7	96,500
New York Times Co.	2.7	96,200
Newmont Mining Corp.	8.8	122,280
Newpark Resources	0.9	3,500
Newport Pharmaceuticals Int'l	0.9	10,000
NFC Corp.	0.9	10,000

Stock	% of Funds Holding	Number of Shares Held
Niagra Mohawk Power Corp.	4.4	266,710
Nicklos Oil & Gas	1.8	301,060
Nicor	0.9	47,000
Nielson (A. C.) Co.	0.9	32,000
Nike	0.9	4,835
NL Industries	13.3	297,800
NLT Corp.	8.8	203,982
Noble Affiliates	5.3	303,582
Nordstrom	1.8	4,300
Norfolk & Western Railway Co.	8.8	161,300
Norris Industries	0.9	60,000
North American Coal Corp.	2.7	12,500
North American Philips Corp.	0.9	1,000
Northern Indiana Pub. Svc. Co.	3.5	11,300
Northern States Power Co.	8.0	144,232
Northern Telecom Ltd.	3.5	411,532
Northwest Airlines	9.7	183,542
Northwest Bancorporation	7.1	125,400
Northwest Industries	9.7	267,770
Norton Co.	1.8	60,500
Norton Simon	8.8	271,526
Noxell Corp.	2.7	52,600
Nucor Corp.	0.9	27,600
Oak Industries	0.9	1,500
Occidental Petroleum Corp.	2.7	77,000
Ocean Drilling & Exploration Co.	2.7	14,000
Ogden Corp.	1.8	40,300
Ogilvy & Mather	0.9	20,000
Ohio Edison Co.	5.3	258,506
Ohio-Sealy Mattress Mfg. Co.	0.9	10,000
OKC Corp.	0.9	300
Oklahoma Gas & Electric Co.	0.9	1,200
Oklahoma Natural Gas Co.	0.9	1,250
Oneok	2.7	34,200
Oscar Mayer & Co.	5.3	64,300
Outboard Marine Corp.	5.3	95,200
Outlet Co.	0.9	35,000
Overnite Transportation Co.	1.8	5,100
Overseas Shipholding	0.9	3,000
Owens-Corning Fiberglas Corp.	8.0	143,600
Owens-Illinois	9.7	182,987
Pabst Brewing Co.	4.4	33,000
PACCAR	4.4	43,420
Pacific Gas & Electric Co.	8.8	517,745
Pacific Lighting Corp.	6.2	122,226
Pall Corp.	0.9	45,000
Palm Beach	1.8	84,000
Pan American World Airways	1.8	235,101
Panhandle Eastern Pipe Line Co.	8.8	169,399
Parker Drilling Co.	5.3	228,700
Parker-Hannifin Corp.	2.7	17,900
Parker Pen Co.	2.7	72,684
Parsons (Ralph M.) Corp.	2.7	29,100
Patrick Petroleum Co.	1.8	83,500
Pay Less Cashways	0.9	1,600
Pay 'N Pak Stores	0.9	1,000
Pay-N-Save Corp.	1.8	16,400
Peabody International Corp.	3.5	39,411
JCPenney Co.	10.6	405,064
Pennwalt Corp.	0.9	107,800
Pennzoil Co.	8.0	116,900
Peoples Energy Corp.	6.2	103,234
Peoples Express Airlines	0.9	7,200
Pepsico	18.5	607,192
Perkin-Elmer Corp.	14.2	108,100
Petrie Stores Corp.	2.7	47,800
Petrolane	3.5	75,600
Petroleum Equipment Tools Co.	2.7	35,400
Pfizer	19.4	444,298
Phelps Dodge Corp.	8.0	118,926
PHH Group	1.8	37,000
Philadelphia Electric Co.	4.4	405,923
Philadelphia Suburban Corp.	0.9	3,800
Philip Morris	36.3	875,691
Phillips Petroleum Co.	27.4	1,130,278
Pillsbury Co.	5.3	228,923
Pioneer Corp. of Texas	3.5	52,900
Pioneer Hi Bred International	0.9	150,000
Pitney-Bowes	8.0	112,700
Pittsburgh National Corp.	0.9	1,300
Pittston Co.	10.6	226,792
Pittway Corp.	0.9	2,500
Plantronics	1.8	170,800
Plessey	0.9	500
Playboy Enterprises	0.9	7,100
Pogo Producing Co.	0.9	3,500
Polaroid Corp.	7.1	179,847
Pope & Talbot	0.9	47,600
Porta System Corp.	0.9	35,000
Potlatch Corp.	4.4	59,519
Potomac Electric Power Co.	0.9	3,000
PPG Industries	7.1	46,150
Premier Industrial Corp.	1.8	60,000
Prime Computer	2.7	126,750
Proctor & Gamble Co.	15.9	535,337
Provident Life & Accident Insurance Co.	0.9	500
Public Service Co. of Colorado	1.8	10,100
Public Service Co. of Indiana	6.2	202,358
Public Service Electric & Gas Co.	5.3	299,723
Puget Sound Power & Light Co.	0.9	8,000
Purex Industries	6.2	174,600
Quadrex Corp.	0.9	15,000
Quaker Oats Co.	7.1	85,000
Quaker State Oil Refining Corp.	2.7	145,000
Quanex Corp.	0.9	2,000
Questor Corp.	2.7	36,679
Ralston Purina Co.	11.5	569,683
Ramada Inns	2.7	99,000
Raychem Corp.	2.7	6,000
Raymond International	0.9	50,000
Raytheon Co.	34.5	383,504
RCA Corp.	11.5	369,148
Reading & Bates Offshore Drilling Co.	6.2	74,775
Redman Industries	3.5	34,301
Reeves Brothers	3.5	9,320
Republic Corp.	2.7	49,100
Republic New York Corp.	0.9	3,000
Republic of Texas Corp.	2.7	65,350
Republic Steel Corp.	4.4	92,700
Research Cottrell	0.9	20,000
Revco (D. S.)	10.6	191,900
Revere Copper & Brass	2.7	21,100
Revlon	15.9	144,444
Rexnord	5.3	153,800
Reynolds & Reynolds Co.	3.5	71,900
Reynolds (R. J.) Industries	27.4	651,298
Reynolds Metals Co.	7.1	137,840
Richardson-Merrell	1.8	34,700
Rio Grande Industries	0.9	4,000
Rite Aid Corp.	5.3	70,300
RLC Corp.	0.9	6,000
Roadway Express	7.1	91,600
Robertson (H. H.) Co.	0.9	800
Robins (A. H.) Co.	0.9	3,000
Rockwell International Corp.	8.0	327,904
Rogers Corp.	0.9	1,000
Rohm & Haas Co.	0.9	11,400
Rollins	0.9	11,000
Rolm Corp.	5.3	128,900
Roper Corp.	3.5	64,400
Rorer Group	2.7	20,900
Rowan Ltd.	5.3	613,300
Royal Crown Cos.	4.4	72,600
Royal Dutch Petroleum Co.	8.0	694,900
Rubbermaid	0.9	10,000
Russ Togs	0.9	32,000
Russell Corp.	0.9	1,700
Ryan Corp.	0.9	56,250
Ryder System	2.7	61,508
Ryland Group	0.9	10,000
Sabine Corp.	2.7	53,750
SAFECO Corp.	6.2	82,250
Safeguard Business Systems	1.8	4,200
Safety-Kleen Corp.	0.9	200,000
Safeway Stores	9.7	189,763
Saga Corp.	0.9	4,000
St. Joe Minerals Corp.	8.8	201,500
St. Louis-San Fran. Railway Co.	0.9	300
St. Paul Cos.	8.0	172,564
St. Regis Paper Co.	7.1	146,450
Sanders Associates	4.4	80,600
Santa Fe Industries	11.5	183,216
Santa Fe International Corp.	15.9	7,539,097
Sav-A-Stop	0.9	10,000
Sceptre Resources Ltd.	0.9	4,000
Schering-Plough Corp.	15.0	362,508
Schlitz (Jos.) Brewing Co.	4.4	113,700
Schlumberger Ltd.	46.9	1,129,939
Scientific-Atlanta	1.8	25,300
SCM Corp.	2.7	9,800
Scott & Fetzer Co.	1.8	32,200
Scott Paper Co.	6.2	158,782
Scotty's Inc. Co.	0.9	18,000
Sea Containers	1.8	40,900
Seaboard Coast Line Industries	0.9	91,086
Seagram Co. Ltd.	8.0	234,430
Sealed Air Corp.	1.8	45,000
Sealed Power Corp.	1.8	11,400
Searle (G. D.) & Co.	8.0	353,400
Sears, Roebuck & Co.	12.4	1,448,530
Security Pacific Corp.	3.5	35,420
Sedco	7.1	93,600
Sensormatic Electronics Corp.	3.5	37,700
Service Merchandise	0.9	125,000
Servicemaster Industries	4.4	82,500
SFN Cos.	3.5	44,000
Shared Medical Systems Corp.	3.5	68,400
Shell Oil Co.	12.4	1,395,359
Sherwin-Williams Co.	4.4	57,400
Signal Cos.	8.8	350,450
Singer Co.	3.5	64,600
Skyline Corp.	4.4	47,500
Smith International	6.2	52,700
SmithKline Corp.	17.7	446,686
Snap-on Tools Corp.	4.4	132,065
Sonoco Products Co.	0.9	1,100
Sony Corp.	1.8	3,200
Sotheby Park Bernet Group Ltd.	1.8	50,000
South Carolina Electric & Gas Co.	0.9	8,700
South Jersey Industries	0.9	1,200
Southern California Edison Co.	8.8	309,127
Southern Co.	5.3	952,204
Southern Natural Resources	14.2	249,600
Southern Pacific Co.	6.2	123,298
Southern Railway Co.	15.9	132,134
Southland Corp.	1.8	15,800
Southland Royalty Co	1.8	46,000
Southwest Airlines Co.	1.8	37,900
Southwest Bankshares	0.9	11,000
Spectra Physics	1.8	27,000
Sperry Rand Corp.	13.3	252,370
Springs Mills	3.5	35,800
SPS Technologies	1.8	9,140
Square D Co.	11.5	293,950
Squibb Corp.	5.3	9,400
Staley (A. E.) Manufacturing Co.	1.8	19,500
Stanadyne	0.9	5,650
Standard Brands	17.7	261,266
Standard Oil Co. (Indiana)	38.9	1,818,484
Standard Oil Co. of California	29.2	918,732
Standard Oil Co. (Ohio)	15.9	273,200
Stanley Works	0.9	55,000
Stauffer Chemical Co.	8.8	220,900
Sterling Drug	8.0	264,100
Stevens (J. P.) & Co.	4.4	110,850
Stokely-Van Camp	2.7	12,300

Stock	% of Funds Holding	Number of Shares Held
Stone & Webster	0.9	200
Storage Technology Corp.	1.8	9,000
Storer Broadcasting Co.	0.9	3,500
Subaru of America	1.8	21,300
Sullair Corp.	0.9	9,000
Sun Banks of Florida	1.8	28,400
Sun Co.	8.8	585,600
Sunbeam Corp.	5.3	92,700
Sundance Oil Co.	0.9	1,500
Sundstrand Corp.	8.0	136,700
Sunshine-Jr. Stores	0.9	37,500
Super Value Stores	0.9	40,000
Superior Oil Co.	22.1	217,550
Swank	0.9	6,600
Sybron Corp.	0.9	10,000
Syntex Corp.	5.3	30,500
Sysco Corp.	1.8	67,800
Taft Broadcasting Co.	6.2	110,300
Tampax	0.9	3,800
Tandem Computers	2.7	89,850
Tandy Corp.	13.3	169,550
Tektronix	11.5	104,850
Teleco Oilfield Services	0.9	75,000
Teledyne Corp.	6.2	62,200
Tellabs	0.9	3,900
Tenneco	14.2	581,400
Teradyne	1.8	4,000
Tesoro Petroleum Corp.	0.9	4,700
Texaco	1.9	1,355,224
Texas Commerce Bancshares	5.3	100,334
Texas Eastern Corp.	12.4	151,305
Texas Gas Transmission Corp.	7.1	101,700
Texas Industries	2.7	54,100
Texas Instruments	14.2	105,854
Texas International Co.	0.9	10,000
Texas Oil & Gas Corp.	12.4	279,000
Texas Utilities Co.	12.4	482,594
Texasgulf	8.0	146,185
Textron	11.4	272,200
Thiokol Corp.	0.9	18,000
Thomas & Betts Corp.	6.2	36,600
Thompson Medical Co.	0.9	10,000
Tidewater	7.1	167,650
TIE Communications	0.9	2,000
Tiger International	2.7	86,700
Time	8.8	149,669
Times Mirror Co.	7.1	142,042
Timken Co.	8.0	60,141
Tonka Corp.	2.7	6,154
Toro Co.	0.9	5,000
Tosco Corp.	3.5	5,300
Towle Manufacturing Co.	0.9	20,000
Toys R Us	5.3	224,300
Tracor	0.9	7,400
Trane Co.	5.3	47,748
Trans Union Corp.	1.8	20,800
Transamerica Corp.	8.0	320,800
Transco Cos.	5.3	13,200
Transohio Financial	0.9	1,157
Transway International Corp.	1.8	13,500
Travelers Corp.	11.5	173,397
Triad Systems Corp.	1.8	16,475
Triangle Pacific Corp.	0.9	5,000
Trinity Industries	1.8	45,000
TRW	14.2	183,582
Twentieth Century-Fox Film Corp.	6.2	201,564
Tyco Laboratories	1.8	28,800
Tylan Corp.	0.9	6,875
Tyler Corp.	1.6	19,000
Tymshare	1.8	45,000
UAL	5.3	138,500
UMC Industries	5.3	82,800
UNC Resources	0.9	3,800
Unilever	6.2	236,459
Union Camp Corp.	16.8	158,840
Union Carbide Corp.	12.4	383,466
Union Oil Co. of Calif.	21.2	979,752
Union Pacific Corp.	21.2	474,908
Uniroyal	2.7	100,300
United Brands Co.	0.9	2,000
United Energy Resources	0.9	30,000
United Industrial Syndicate	0.9	4,400
United Inns	0.9	2,300
U.S. Air	0.9	3,250
U.S. Bancorporation	0.9	6,600
U.S. Fidelity & Guaranty	8.8	150,842
United States Gypsum Co.	9.7	180,056
United States Home Corp.	9.7	427,750
United States Shoe Corp.	1.8	6,000
U.S. Steel Corp.	6.2	340,975
U.S. Surgical Corp.	1.8	18,100
United States Tobacco Co.	2.7	33,700
United Technologies Corp.	15.0	279,808
United Telecommunications	9.7	380,275
United Virginia Bankshares	0.9	30,000
Unitrode Corp.	0.9	3,000
Universal Leaf Tobacco Co.	0.9	1,100
Upjohn Co.	9.7	161,800
Utah Power & Light Co.	0.9	1,000
UTD Technologies	0.9	8,400
Vaal Reefs Exploration & Mining	1.8	3,100
Valero Energy Corp.	0.9	4,700
Valley National Bank (AZ)	0.9	3,000
Varian Associates	1.8	9,755
Veeco Instruments	1.8	7,550
VF Corp.	5.3	81,600
Virginia Electric & Power Co.	5.3	363,900
Wachovia Corp.	1.8	32,200
Wal Mart Stores	1.8	30,000
Walgreen Co.	3.5	26,110
Walker (Hiram) Consumer Home	5.3	268,637
Walter (Jim) Corp.	9.7	102,000
Wang Laboratories	11.5	380,990
Warnaco	0.9	175
Warner Communications	11.5	164,726
Warner-Lambert Co.	12.4	567,539
Waste Management	5.3	40,300
Watkins-Johnson Co.	2.7	44,900
Weatherford International	0.9	40,000
Wells Fargo & Co.	6.2	43,742
Westburne International Industries Ltd.	2.7	38,000
Western Bancorporation	9.7	207,449
Western Co. of North America	3.5	75,500
Western Deep Levels Ltd.	1.8	4,100
Western Digital	0.9	40,000
Westinghouse Electric Corp.	7.1	333,959
Westmoreland Coal Co.	3.5	25,900
WestPoint Pepperell	6.2	52,820
Westvaco Corp.	4.4	66,807
Weyerhaeuser Co.	15.0	813,509
Wheelabrator-Frye	8.0	113,692
Wheeling-Pittsburgh Steel Corp.	2.7	14,300
Whirlpool Corp.	5.3	174,600
White Consolidated Industries	1.8	138,100
Whittaker Corp.	5.3	160,200
Willamette Industries	1.8	16,129
Williams Cos.	8.8	189,800
Winn-Dixie Stores	6.2	94,330
Wisconsin Electric Power Co.	8.8	197,974
Witco Chemical Corp.	1.8	25,400
Woolworth (F. W.) Co.	6.2	210,288
Worthington Industries	0.9	45,000
Wrigley (William, Jr.) Co.	3.5	29,600
Wyle Laboratories	0.9	1,563
Xerox Corp.	26.5	755,854
Xidex Corp.	1.8	7,900
Yellow Freight Systems	6.2	142,300
Zenith Radio Corp.	6.2	74,700
Zurn Industries	0.9	1,700

The drop-ins

Albany International Corp.
Allegheny Ludlum Industries
Allied Bancshares
Amdahl Corp.
Ampex Corp.
Analogic Corp.
Andrew Corp.
Applicon
Arrow Electronics
Avery International Corp.
Ball Corp.
Bantec, Inc.
Bell & Howell Co.
Bergen Brunswig Co.
Bic Pen Corp.
Bowne & Co.
Brown-Forman Distillers Corp.
Burns International Services
Burnup & Sims
Buttes Gas & Oil Co.
Canadian Pacific Ltd.
CECO Corp.
Charter Co.
Chem-Lawn Corp.
City Investing Co.
City National Corp.
Comcast Corp.
Compact Video System
Computervision Corp.
Cray Research
Criton Corp.
Cross & Trecker Corp.
Cyclotron Corp.
DeKalb AG Research
Dennison Manufacturing Co.
Dickey John
Doyle Dane Bernbach
Dreyfus Corp.
Duquesne Light Co.
Economics Laboratory
Electro-Nucleonics
Energy Reserves Group

Epsco
Equitable Gas Co.
Federal Co.
Federal Mogul Corp.
Flexi-Van Corp.
Floating Point System
Fluke (John) Manufacturing Co.
Foote, Cone & Belding Communications
Greyhound Corp.
Guardian Industries Corp.
High Voltage Engineering Corp.
Hunt (Philip A.) Chemical Corp.
Instrumentation Laboratory
Irving Bank Corp.
James (Fred S.) & Co.
Kenai Corp.
Kollmorgen
Kyoto Ceramic Ltd.
Lear Petroleum Corp.
Lomas & Nettleton Financial Corp.
Louisville Gas & Electric Co.
Magnuson Computer Systems
Marion Corp.
Mattel
Media General
Mellon National Corp.
Miller-Wohl Co.
Minerals & Resources Corp.
Monolithic Memories
Moog
Newpark Resources
Newport Pharmaceuticals International
NFC Corp.
Nike
North American Philips Corp.
Oak Industries
OKC Corp.
Pall Corp.
Parsons (Ralph M.) Co.
Patrick Petroleum Co.
Pay Less Cashways
Pay 'N Pac Stores
Philadelphia Suburban Corp.
Pittway Corp.
Plessey
Playboy Enterprises
Pogo Producing Co.
Provident Life & Accident Insurance Co.
Quaker State Oil Refining Corp.
Quanex Corp.
RLC Corp.
Robertson (H. H.) Co.
Robins (A. H.) Co.
Rogers Corp.
Rohm & Haas Co.
Safeguard Business Systems
Sceptre Resources Ltd.
South Jersey Industries
Southwest Bankshares
SPS Technologies
Staley (A. E.) Mfg. Co.
Stone & Webster
Storer Broadcasting Co.
Sundance Oil Co.
Swank
Teleco Oilfield Services
Tellabs
Tracor
Triad Systems Corp.
Tyco Laboratories
Tylan Corp.
Tyler Corp.
United Brands Co.
United Inns
United States Shoe Corp.
Unitrode Corp.
U.S. Air
Utah Power & Light Co.
Vaal Reefs Exploration & Mining
Valero Energy Corp.
Valley National Bank (AZ)
Weatherford International
Western Deep Levels, Ltd.
Western Digital
Xidex Corp.
Zurn Industries

The drop-outs

Albertson's, Inc.
American Greetings Corp.
American Quasar Petroleum Co.
Ameritrust Co.
Ametek, Inc.
Anchor Hocking Corp.
Aquitaine Co. of Canada
Ashland Oil
Bank of New York
Beech Aircraft Corp.
Bow Valley Industries, Ltd.
Braun (C. F.) & Co.
British Petroleum Ltd.
Brown (Tom) Inc.
Butler Manufacturing Co.
Campbell Taggart
Castle & Cooke
Centronics Data Computer Corp.
Cessna Aircraft Co.
C.I.T. Financial
Clark Oil & Refining Corp.
Cleveland Elec. Illuminating Co.
Coleman Co.
Combined Insurance Co. of America
Communications Satellite Corp.
Congoleum Corp.
Delta Queen Steamboat Co.
Dillon Companies
ERC Corp.
Ferro Corp.
Fischbach Corp.
GATX Corp.
Girard Co.
GRI Corp.
Flintkote Co.
Foremost-Mckesson
Gulf Resources & Chemical
Harrah's
Hazleton Laboratories Corp.
Hecla Mining Co.
Howard Johnson Co.
Husky Oil Co.
Illinois Tool Works
Independent Life & Accident Insurance Co.
International Multifoods Corp.
International Shipholding Corp.
Itel Corp.
Kansas Power & Light Co.
Kelly Services
Kings Department Stores
Larsen (Gotaas) Shipping
Liggett Group
Loctite Corp.
McMoran Oil & Gas Co.
Modern Merchandising
Mountain Fuel Supply Co.
National Fuel Gas Co.
Northern Industrial Pub. Svc.
Northern Natural Gas Co.
Northrop Corp.
Northwest Natural Gas Co.
Northwestern National Life Insurance Co.
Nowsco Well Service
Pacific Gamble Robinson Co.
Pacific Lumber Co.
Pennsylvania Power & Light Co.
Petrolite Corp.
Ponderosa System
Pullman
Reserve Oil & Gas
Royster Co.
Scovill
Seafirst Corp.
Signode Corp.
Smucker (J. M.) Co.
Southwestern Life Corp.
Stewart & Stephenson Services
Suburban Propane Gas Corp.
Sun Electric Corp.
Supron Energy Corp.
Tucson Electric Power Co.
U.S. Life Corp.
Victoria Station
VSI Corp.
Warner & Swasey Co.
Washington Energy Co.
Washington National Insurance Co.
Waters Associates
Western Casualty & Surety Co.
Wicor
Wisconsin Gas Co.
Wisconsin Public Service Corp.
Wynn's International
Zayre Corp.

The favorite fifty

Stock	Rank		% of Funds Holding	Number of Shares Held
	1981	1980		
International Business Machines Corp.	1	1	66.4	3,714,290
Atlantic Richfield Co.	2	2	58.4	1,836,112
Exxon Corp.	3	4	50.4	2,842,551
General Electric Co.	4	6	46.9	1,430,824
Schlumberger Ltd.	5	5	46.9	1,129,939
American Telephone & Telegraph Co.	6	3	43.4	3,755,679
Standard Oil Co. (Indiana)	7	8	38.9	1,818,484
Eastman Kodak Co.	8	16	37.2	1,211,708
Philip Morris	9	7	36.3	875,691
Halliburton Co.	10	18	34.5	838,358
Raytheon Co.	11	17	34.5	383,504
Caterpillar Tractor Co.	12	10	31.0	665,958
Merck & Co.	13	26	30.1	580,686
Standard Oil Co. of California	14	12	29.2	918,732
Mobil Corp.	15	—	28.3	1,350,627
Phillips Petroleum	16	14	27.4	1,130,278
Reynolds (R. J.) Industries	17	—	27.4	651,298
Digital Equipment Corp.	18	24	27.4	398,494
Minnesota Mining & Manufacturing Co.	19	20	26.5	823,743
Xerox Corp.	20	11	26.5	755,854
K-mart Corp.	21	9	24.8	865,586
Bristol-Myers Co.	22	—	24.8	715,285
DuPont (E. I.) de Nemours & Co.	23	—	23.9	1,015,616
Conoco	24	38	23.0	795,181
American Home Products Corp.	25	13	22.1	1,034,571
Superior Oil Co.	26	—	22.1	217,550
General Motors Corp.	27	21	21.2	1,682,168
Union Oil Co. of California	28	44	21.2	979,752
Boeing Co.	29	36	21.2	826,310
Lilly (Eli) & Co.	30	—	21.2	481,521
Union Pacific Corp.	31	28	21.2	474,908
McDonald's Corp.	32	—	21.2	246,544
International Telephone & Telegraph Corp.	33	—	19.4	913,635
Bankamerica Corp.	34	—	19.4	767,043
Pfizer	35	—	19.4	444,298
Johnson & Johnson	36	31	19.4	425,068
Hughes Tool Co.	37	41	19.4	298,056
Dow Chemical Co.	38	15	18.5	1,248,438
Pepsico	39	43	18.5	607,192
Deere & Co.	40	—	17.7	585,652
Engelhard Minerals & Chemicals Corp.	41	—	17.7	473,434
Dresser Industries	42	32	17.7	469,808
Getty Oil Co.	43	45	17.7	452,308
SmithKline Corp.	44	25	17.7	446,686
Abbott Laboratories	45	—	17.7	350,496
Morgan (J. P.) & Co.	46	37	17.7	325,038
Burroughs Corp.	47	33	17.7	269,314
Standard Brands	48	—	17.7	261,266
Beatrice Foods Co.	49	29	16.8	841,753
Coca-Cola Co.	50	27	16.8	568,757

Pension World

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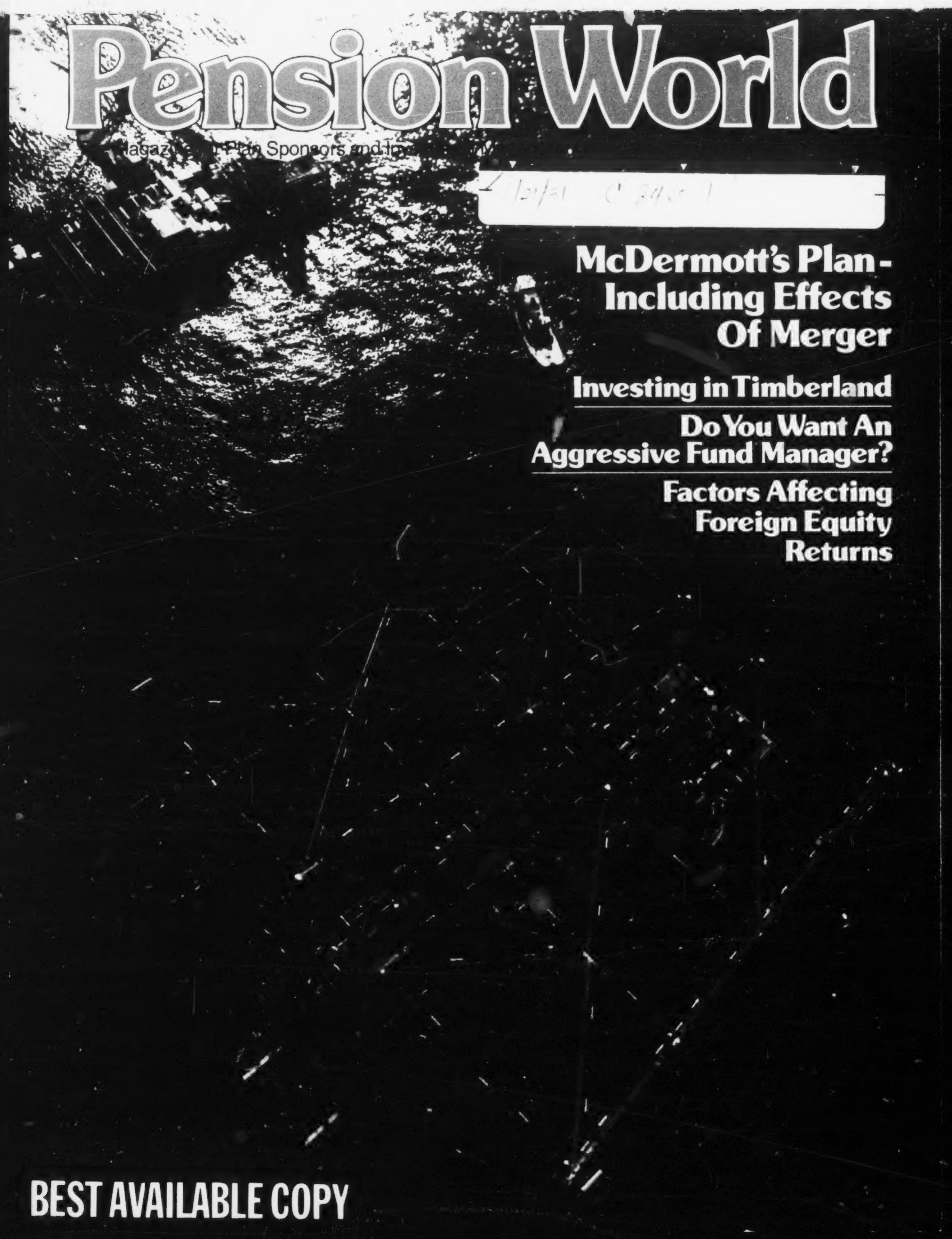

McDermott's Plan - Including Effects Of Merger

Investing in Timberland

Do You Want An Aggressive Fund Manager?

Factors Affecting Foreign Equity Returns

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Pension World

June 1981
Volume 17 Number 6

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Features

Merging two major firms creates special challenge *Pension World* Interview — 14
The benefits executives of McDermott, Inc., discuss the effects that the merger of J. Ray McDermott and Babcock & Wilcox has had on the new firm's employee benefits plans.

Real estate's financial performance in the marketplace by Nathan Schloss — 21
A real estate specialist addresses the risk/reward considerations relevant to pension funds' selection of real estate as an investment vehicle.

It helps employers, too by Rick Garnitz — 24
The company that provides pre-retirement programs for its employees earns direct benefits for itself as well.

Investing in timberland by David S. Graham and Charles M. Tarver — 30
In return for its patience, the pension fund that invests in timber receives asset diversification, an inflation hedge, and an asset that grows in volume every year.

Is George Patton going to manage your money? by A. S. Hydrick, Jr. — 48
Plan sponsors must understand the role that risk plays in achieving investment performance and should use this knowledge to evaluate prospective equity managers.

"But the pension fund was just sitting there" by Roy A. Schotland — 52
Much is said and written about the huge sum of pension assets available for investment. Little information is publicized about the unfunded liabilities. Dr. Schotland shares data collected on this aspect of pension funds.

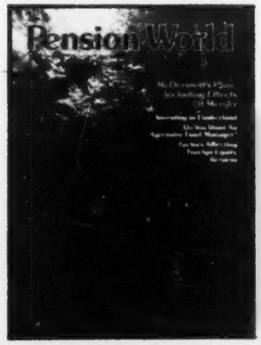
Factors affecting foreign equity returns by Mark England-Markun — 57
The head of the Portfolio Research Department at State Street Bank studies the importance of world, national, and industry factors on foreign equity returns.

AMERICA, the limitless society? by Frank A. Sortino — 61
The director of the Pension Research Institute offers an alternative view to the theme that corporations must seek creative solutions to the inflation problem.

Pension World Basics: Real estate and the institutional investor Part I by W. Nicholas Thorndike — 64
Pension World presents the fundamentals of real estate in terms of its role as a prudent investment for pension funds.

Departments

Guest Editorial 4
Letters to the Editor 6
International Pension World 8
Washington Newsletter 10
Pension News 35
Pension People 43
Meetings & Conventions 46
What Every Fiduciary Should Know 74
Cases & Rulings 79
Arbitration Awards 82



Cover: The merger of J. Ray McDermott and Babcock & Wilcox in 1978 provided the new firm with greatly expanded capabilities in the energy area. How the company's benefits plans are being combined harmoniously begins on page 14.

BPA

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Real estate's financial performance in the marketplace

Pension fund managers have shown an active interest in evaluating real estate as an alternative investment for two principal reasons: 1) the perception of real estate as an effective hedge against inflation; and 2) the investment impact of the Employee Retirement Income Security Act of 1974 (ERISA), which mandates that fund administrators/managers have a fiduciary responsibility to ensure that all investment decisions are made with the skill that a prudent man familiar with such matters would use and that investments be diversified to minimize risk.

This article addresses the financial considerations relevant to the selection of real estate as a potential investment vehicle. To determine whether real estate can be an effective inflation hedge and also a low-risk investment option, three fundamental questions relating to real property investment are addressed:

1. Is the ownership of real estate a viable investment alternative, i.e., what is the risk and what are the rewards?
2. What impact does real estate ownership have on total portfolio return, expressed in terms of impact on expected return and impact on volatility of return?
3. What are the equity investment options, i.e., should a fund invest directly or use an intermediary, such as a commingled fund?

The same process of risk/reward determination would be used in evaluating investment in raw land or in developing income-producing property. However, the most recent real estate survey by Money Market Directories, Inc., (printed in *Pension World,* Sept. 1980) pointed out that over two-thirds of the pension fund respondents favored investment in developed, income-producing properties for an equity ownership option. This being the case, equity ownership in real estate is taken here to mean equity ownership in on-stream, income-producing property.

In order to provide a rational evaluation construct, we will deal with the following areas:

- The hypothetical value of diversification into real property.
- Ex post returns on equity real estate *vis a vis* more traditional pension fund equity investments.
- Risk in real estate investment and how to deal with it.
- 1981 through 1985 ex ante returns.
- The rewards and associated risks of equity options.

The hypothetical value of diversification into property

Investment, by definition, is to subject a sum of money with a certain present value to risk in the hopes of obtaining an uncertain reward. Moreover, the higher the reward, the higher the risk. Specifically, risk is defined statistically as the probable range of deviation between actual reward (total return on investment) and expected reward. While a great deal of judgment is required, statistical techniques are available which permit the estimation and control of the sources of both risk and return. Making a rational investment decision without, at the very minimum, a conditional determination of probable return and upside/downside risk is hard to imagine.

by NATHAN SCHLOSS
Vice President-Treasurer
Real Estate Research Corporation
Chicago

The principal potential value to a pension fund of diversifying into equity real estate is as follows:

1. Because, with the exception of apartments, most income-producing properties have leases that may allow for pass through of expenses, be based on a percentage of sales, or have partial to full CPI kickers, real estate is perceived to be highly responsive to inflation. Since inflation will probably continue to be a major market factor, this positive response characteristic of real estate would represent a potentially positive addition to a portfolio not containing real property.

2. If markets were totally efficient and investment portfolios were industry comprehensive, total portfolio return would be perfectly consistent with its positioning on the risk/reward spectrum. However, the real property market is inefficient, and equity real estate represents an add-on to most pension fund portfolios. Therefore, two impacts may occur:

- Because equity real estate represents a "dissimilar" market, i.e., the market comprehensiveness of the portfolio is expanded, one would expect that market risk might be reduced. Thus, the deviation between expected and actual return could diminish.
- Because the real estate market is inefficient, i.e., relevant information is not fully available, it is possible to achieve a higher rate of return than if the market were ef-

Pre-Tax Total Annual Returns (1976-1980)

S&P 500	**9.5%**	**Strip Shopping Centers**	**12.0%**
Apartments	**10.6%**	**Warehouses**	**11.0%**
Hotels	**17.4%**	**Office Buildings**	**14.3%**
Regional Shopping Centers	**17.3%**	**Rate of Inflation (CPI-U)**	**9.2%**

ficient and one could only expect a "fair" rate of return relative to assumed risk.

Ex post returns on equity real estate

The most reliable series available on historical real estate portfolio performance is the American Council of Life Insurance's historical series which dates back to 1965. An evaluation of financial and appraisal data relating to mortgage commitments by the principal life insurance company lenders in the U.S. suggests that, on average, total nominal annualized average return on property held between 1970 and 1976 would have been 10.2 percent. During the same time frame, Lawrence Fisher and James Lorie's study, *A Half Century of Returns on Stocks and Bonds,*[1] showed that nominal return on common stocks was 7.1 percent. The differential between the numbers ties in with estimates of pre-tax, free and clear real property returns between 1976 and 1980 on high quality, investment grade property. These latter estimates incorporate numerous appraisals and evaluations of real property investment portfolios, in addition to the ACLI data.

The accompanying table shows total annual estimated nominal rates of return for the major income-producing property categories and the S&P 500. Also shown is the average annual rate of inflation, as measured by the all item CPI-U. The real rate of return can be obtained by subtracting the rate of inflation from the nominal rate. One additional significant factor is that the estimated volatility of high quality, investment grade real property is less than 2.5 percent, as measured by standard deviation from the average return. Thus, extremely high quality real property has shown relatively high and stable returns. It should also be noted that the writer increased the standard deviation by a full one percent to account for the judgmental element in appraisal valuations.

The annualized total return on a real estate portfolio containing two or more property categories would be the sum of the returns on all property categories in the portfolio, weighted by each property type's proportionate value to the value of the total portfolio.

Real estate investment risk

Real estate is subject to the same risk variables that all investment vehicles are, with one major difference. Real property is locationally fixed and is dependent upon regional economic factors, as well as those relating to the nation as a whole. Following is an enumeration of the principal elements which come under the rubric of investment risk and a suggested approach to dealing with each.

1. *Market Risk*. Another name is business cycle risk which, in the case of real property, must be specifically related to potential geographical areas of investment concentration. The goal here is to select only those areas that are business cycle resistant, e.g., Columbus, Ohio. This can be accomplished initially by developing a regional evaluation index which qualitatively measures both economic fundamentals and construction activity. Once a market passes this initial screening, it would have to have a high enough absolute level of nonresidential construction activity to justify spending the time and money to search for investment opportunities.

Because real estate is locationally fixed, if a decision is made to invest in a given market, it is of utmost importance to make certain that acquisitions are properly positioned within the chosen investment market and are of highest quality in-

level of business uncertainty that appears in the vast majority of long-range economic forecasts, market risk has to be the single most important factor to deal with and is not unrelated to the additional categories of risk.

2. *Purchasing Power Risk (Inflation)*. Historically, real property has been a good hedge against inflation. However, the rates of inflation we have been experiencing have put extreme pressure on space occupants. To protect real estate investments from inflation:

- Only pick investment locations where the economic fundamentals will support the proposed investment.
- Choose protected locations where a target market exists for each structure acquired and where the target market can be definitively delineated.
- Set tight investment criteria, and do not buy properties just because there is pressure to get funds invested. Only purchase high quality investment properties. The fund will pay a premium initially, but properties are typically held for a long time.
- Obtain competent property management. This factor alone can make a 15 to 25 percent difference in net operating income.

3. *Interest Rate and Liquidity Risk*. Real property takes time to sell, and the net operating income multiple for which a property can be sold (the reciprocal of yield) is affected by the business cycle. Set a limit on real property investment levels so that the fund is never placed in a forced sale position.

1981-85 ex ante returns

Following are forecasted total annualized nominal rates of return (cash flow plus capital appreciation) on selected free and clear property categories from 1981 through 1985. Regional shopping centers and hotels are not included because, in our opinion, high quality regional shopping centers are overpriced, and hotel investment is relatively high risk for active consideration by most pension funds.

In arriving at the forecast of returns, three assumptions were made: 1) all properties were of the highest investment grade; 2) the underlying inflation rate, as measured

(Continued on page 81)

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[1] *Fisher, Lawrence and James Lorie.* A Half Century of Returns on Stocks and Bonds *(University of Chicago Press, 1977).*

Real estate's performance in the marketplace

(Continued from page 22)

by the Gross National Product Deflator, was calculated to be in the nine to 10 percent range; and 3) a stagflation economic scenario with a major recession in 1983 or 1984 was assumed. Moreover, the magnitude of the recession was assumed to be at least equal to that which occurred between 1973 and 1975. Our forecasts of return are as follows:

Office Buildings	14.0%
Warehouses	12.5%
Strip Shopping Centers	12.5%

Rewards and associated risks of equity options

The lowest risk equity option is to purchase a share interest in one or more of the commingled funds which, historically, have been managed by life insurance companies and banks but are presently being offered by some members of the investment banking and brokerage community as well. The investor pays a fee for services but does not have to front end the cost of establishing an in-house acquisition and management capability. The investment risk is shared with others, and the fund provides the benefit of the diversification multiple of pooled funds. This is a very attractive option for smaller funds with limited investment capacity.

The equity option which will be most attractive to funds who have decided to establish an in-house real estate investment/property management activity will be the acquisition of fully-developed properties. However, the front-end costs are high, and the competition for high quality properties is intense. Before taking this option, a fund should make certain that its net return over time will exceed that attainable through investment in an intermediary and that it is willing to assume the downside risk of direct investment.

Two additional direct investment options which we do not recommend that a pension fund pursue initially are joint venturing with a developer and direct development of product for investment purposes. The rewards, depending upon the project, can be high, but so are the risks. ☐

Pre-retirement planning: It helps employers, too

(Continued from page 28)

fer educational assistance programs to older workers interested in exploring new careers or hobbies. In the case of IBM, employees can spend up to $2,500 of the company's funds on educational enrichment during a period extending from three years prior to retirement to two years afterward. This can include anything from tap dancing to accounting courses.

Older ex-employees are used at Bankers Life and Casualty in Chicago as "temporaries" in any number of vacant positions. Other companies bring retirees back as consultants, trainers, and part-time employees.

The recommitment of industry to the stability older workers represent will become an ongoing phenomenon in the 1980's and beyond. Midlife and pre-retirement planning is the first step in that process. ☐

Is George Patton going to manage your money?

(Continued from page 51)

ploy Y over either X or Z when Y's expected return is not being achieved, i.e., when the returns Y is earning do not justify the risk he is incurring.

Using this cursory analysis, the sponsor should conclude that Z is a more aggressive manager than X, and, even though X manages risk better than Z, that Z has earned the higher rewards required when participating in a more risky approach to investment. The sponsor should also probably conclude that Y is an unsatisfactory choice unless analysis reveals substantial improvements in risk management.

Of course, this analysis is not the end-all in selection of asset managers. Of much greater importance are choosing a manager in whom you have trust, one that makes decisions that make sense to you, and one who can and will provide the attention your account deserves. Nevertheless, to evaluate money managers effectively, risk and its management (as incorporated in the calculation of alpha) must be viewed together with expected and total return. Observing either total return or alpha alone can only lead to faulty conclusions. ☐

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"But the pension fund was just sitting there"

Gary Trudeau, cartoonist and *ex officio* philosopher, recently dealt with the diversion of the assets of a football player's pension fund to render special aid to "Lava-Lava Lenny," a 390-pounder with insatiable need for pineapples. Trudeau put forward as the defense to the assets' diversion: "But the pension fund was just sitting there." That captures perfectly the approach of many current notables who are discovering the attraction of pension assets. For example:

> Pension funds are the largest single source of capital in the United States today, representing 27 percent of gross national product. About 500,000 private pension plans, 6,600 state and local government plans, and 38 special Federal worker retirement plans collectively hold more than $550 billion in assets. The Department of Labor estimates that total assets of all plans could amount to three trillion dollars by 1995.

Thus opened a December 1980 study for the Northeast-Midwest Congressional Coalition, representing over 240 members of Congress. Senator Chafee (R-R.I.) and Congressman Edgar (D-Penn.), the Coalition officers releasing the study, announced hearings in 1981 to investigate how pension assets are invested and to get "more of the pension funds directed to local investments."

The study's approach to pension investment typifies many recent studies, articles, and speeches — including the Democratic National Convention spotlight talk on pension investing by Governor Brown of California. Typically, the first note is the sheer size of pension assets, how huge are the bucks "just sitting there." The reason for pointing to such size typically follows at once: some special objective is deemed worthy of an investment preference. Here the call is for more local investing, elsewhere it is for investing to promote reindustrialization, or unionization, or unionized building, or home-building whether or not unionized, or home financing for members of the pension plan, or exclusion of the securities of some companies, or . . .

Also typical is the exaggeration of just how vast are pension assets. "Twenty-seven percent of gross national product" is misleading. It measures a fixed asset amount accumulated over decades, against a single year's output. Would you compare your wealth to someone else's by comparing the value of your house to that person's annual income? In the less dramatic but only proper comparison, if we measure the $653 billion in private, state, and local pension assets as of year-end 1980[1] against the relevant figure, the total outstanding financial assets in the U.S. of $4,882 billion (the stock, the bonds and the mortgages, not even counting such other assets as several trillion dollars in real estate equity), we find that pension assets are not 27 percent but 13 percent.

Those typical aspects are minor, compared to the overriding aspect that typifies calls to turn pension investing toward new directions — the utterly unqualified failure to note why pension assets are there: retirement security. (For a full treatment of why pension assets should *not* be managed for goals that diverge from retirement security, see *Trusts & Estates,* Sept. 1980, Oct. 1980, and Nov. 1980.)

The advocates' unconcern for retirees and the need for retirement income is not merely callous, it also ignores the major flaw in their discovery of pension assets as a huge sum available for new uses. Even $653 billion sounds small — and unavailable — when one recalls that these assets exist to honor the pension promise, or, in less colorful terms, to meet legal obligations.

Although we cannot measure the liabilities as precisely as the assets, fair estimates are that the $653 billion, plus new contributions and investment earnings, must meet *vested* pension liabilities of $775 billion, probably more; or total accrued obligations of $995 billion, probably more.

Despite the disturbing unfirmness of so much of our data about pensions, it is worthwhile and interesting to try to work out the size of the liabilities of all non-Federal pension funds in the U.S. As far as can be determined, no such effort has been made before.

One use of these liability figures is to add an element of perspective to the controversy over whether pension beneficiaries can afford di-

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[1] *The relatively small amount of Federal government pension assets so often included in pension asset figures are excluded here, because virtually no Federal pension assets are invested in private sector securities. As for Federal pension liabilities, not only does the mind boggle at their magnitudes, but how those liabilities are met differs so vastly from the funded pension systems throughout the private sector and almost all of the state and local sector, that the Federal figures must be treated separately and therefore, for present purposes, are excluded.*

version of their assets to various goals in addition to the pursuit of retirement security.

State and local pension funds, now with assets over $203 billion, have an unfunded liability so vast — and involving such uncertainties and data gaps — that in 1975, estimates ranged from 150 to 270 percent of the then assets. According to a forthcoming study, the unfunded obligations are 27 percent of current pension assets by the most sanguine measure, 79 percent of current assets by the plans' own measurements. A 1979 GAO study of representative state and local funds, including such strong ones as California state funds, found three-fourths of the funds so underfunded that they were not even up to ERISA *minima* for private plans.

As for the obligations of private pension plans, estimates of unfunded *vested* liabilities are 19 to 20 percent of current pension assets, looking only at major corporations. More realistic obligations (unfunded past service liability) are estimated to range from 42 to 82 percent of the major corporations' current pension assets.

There are important *caveats* about the use of pension liability figures. *First,* different employers are in different circumstances (and even similarly situated employers may use different actuarial methods or assumptions), so aggregate liabilities are a much more approximate figure than the far firmer asset figures.

Second caveat: Some people believe state and local funds' liabilities are less significant than private plan liabilities. Even if less significant, public plan liabilities matter enough to be taken into account for these reasons: 1) low funding now means more burden later; 2) the unbroken record of continued flow of *state* tax revenues seems likely to continue, but the *municipal* record has been different and may well become worse; and 3) even though tax revenues may continue to flow, the amount seems unlikely to enjoy continued expansion, while state and local needs remain large and pressing.

A last *caveat:* Aggregate pension asset figures lump together all kinds of employee benefit plans — defined benefit, defined contribution plans, and profit-sharing plans. Defined contribution plans and profit-sharing plans have [illegible] more liabilities than assets.

Consider the size of profit-sharing plans. Johnson & Higgins' survey of 650 major corporations showed only 102 corporations with identified profit-sharing plans, which for 1979 had received $719 million in new contributions. One hundred eighteen million dollars had been contributed to 40 firms' ESOP/TRASOP plans. Fifty-seven other firms have ESOP/TRASOP plans but no further information is reported. Although these identified amounts are under-statements, "it is presumed with a great degree of certainty, that the $26 billion in pension cost for the 650 companies . . . is largely composed of costs incurred by domestic, defined benefit plans."[2]

> *Different employers are in different circumstances, so aggregate liabilities are a much more approximate figure than the asset figures.*

According to a survey by the Profit Sharing Council of America, 513 profit-sharing plans received over $990 million in contributions, but the total assets of all such plans may be as much as $60 billion. The survey, answered by 513 of over 1,400 member companies, reported $7.9 billion in profit-sharing and thrift assets for end-1979.[3]

Based on Treasury Department data, the Profit Sharing Research Foundation finds that as of year-end 1980, there are 286,000 profit-sharing and thrift plans, or 46 percent of the universe of plans, the other 54 percent being pension plans.

Although the PSCA and PSRF believe that the percentage of *assets* in profit-sharing and thrift plans is less than their percentage of the number of plans, they also believe their asset figure is far above the $7.9 billion shown in their survey. They estimate the profit-sharing and thrift universe to be 20 percent, more likely 25 percent, of all *non*-insured employee benefit assets. For end-September 1980, the SEC reported $248 billion (book value) in non-insured employee benefit assets, therefore PSCA and PSRF estimate $50 billion in profit-sharing and thrift plans, more likely $62 billion.

Next consider defined contribution plans. These have been rising as a proportion of all pension plans. As of 1975, they were estimated to be 31.3 percent of all ERISA-covered private *plans.*[4] As a proportion of plans, they probably are much larger today, between the growth of employer-sponsored IRA's and the growth of other IRA's, but as a proportion of all pension assets in 1975 or now they would be very much smaller.

Take the IRA's. These have soared from $4.3 billion in 1976 to over $15 billion in 1979.[5] New contributions bring IRA's to over $18 billion, and other net growth should bring the IRA figure to about $20 billion for year-end 1980.

Available data on contributions into Keoghs do not include all contributions. The reported $2.34 billion contributed in 1979 is informally estimated by the Treasury to indicate about $3.5 billion in total Keogh contributions. Total Keogh assets are informally estimated to be about $25 billion.

So adding the $20 billion in IRA's to $25 billion for Keoghs, we get to $45 billion. As for other defined contribution plans, near-darkness descends. The biggest, TIAA-CREF, was over $18 billion at year-end 1980. As for the remaining defined contribution plans, there are only tiny amounts in the state and local universe, e.g., California's over $28 billion pension assets include five million dollars in local, defined contribution plans.[6]

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[2] Funding Costs and Liabilities of Large Corporate Pension Plans *(Johnson & Higgins, 1980).*

[3] *1980 Profit Sharing Survey (Profit Sharing Council of America), p. 1.*

[4] *See ICF* A Private Pension Forecasting Model *(Report for Department of Labor, Oct. 1979), Table II-1.*

[5] Costs and Consequences of Tax Incentives: The IRA (Harvard Law Review, *Vol. 94, 864, 871, 1981).*

[6] *Comptroller's Annual Report of State of California Financial Transactions — Public Retirement Systems, Fiscal 1978-9, p. 5*

Adding the $45 billion estimate for IRA's and Keoghs, the $18 billion for TIAA-CREF, plus an additional near-random guesstimate of $20 billion for all other defined contribution plans, brings the defined contribution total to a probably too high $83 billion. Combine that with the more conservative estimate of $50 billion for profit-sharing plans, for a total sum of $133 billion for non-defined-benefit assets.

Table I **Unfunded Liabilities (end-1979)**

	Regan's 40 Giant Industrials	J. & H.'s Fortune 500 Industrials	*Business Week's* 100 Major Companies
UVL as % of net worth	5.5%	7.3% (444 corps.)	7.1%
UVL as % of plan assets	19 %	25 % (432 corps.)	NA
UPSL as % of net worth	23.5%	11.9% (293 corps.)	NA
UPSL as % of plan assets	82 %	43 % (285 corps.)	NA

Table II **Unfunded Vested Liabilities as Percentage of Net Worth (end-1979)**

	Fortune 600	Compustat 1,516
0-9.9%	83%	90 %
10-19%	10%	5.1%
20-29.9%	3%	2.3%
30% plus	4%	2.6%

Since two-thirds of the IRA assets are in depository institutions, as must be much of the Keogh assets, query whether this whole $133 billion is included in the usual aggregate pension asset figures. In the likelihood that this whole sum is not included in that aggregate, deduct only $110 billion from the aggregate $451 billion private pension assets, to get private defined benefit assets of $341 billion.

To derive the liability figures on the private funds (see Tables I and II), the *lower* figures from two leading sources were used. The 20 percent vested and 42 percent accrued unfunded liability figures are from Johnson & Higgins.[7] The 19 percent vested and 82 percent accrued figures are from Regan, *Pension Survey Shows Some Sign of Improvement.*[8]

Regan's sample covers the largest companies, all industrial and mature, almost all heavily capitalized, and strongly unionized. That sample shows *lower* unfunded vested liabilities than two larger samples, Johnson & Higgins and the *Business Week* annual survey of 100 major companies.[9]

The largest sample on which data are available, the Standard & Poor's Compustat Services' "Unfunded Pension Liabilities," which underlies the *Business Week* survey but covers 1,516 firms, has no overall figures. But there is value in comparing that huge sample's distribution of the firms' unfunded vested liabilities, with the distribution among Johnson & Higgins' *Fortune 444* industrials and others. (See Table II.) On the public funds, for unfunded vested liabilities, the 27 percent-of-current-plan-assets figure from the forthcoming study was used, and for unfunded past

(Continued on page 80)

The following information appears as a matter of record only.
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[7] *Supra, pp. 42-46. Data on 432* Fortune *500 and 139 top non-industrial companies for vested liabilities, on 387 (285 such industrials and 102 other) companies for unfunded past service liabilities.*

[8] Financial Analysts Journal *(Sept.-Oct 1980), p. 16. Data on the four largest firms in each of 10 major industries.*

[9] *August 25, 1980, p. 94.*

WORLD, NATIONAL, AND INDUSTRY

Factors affecting foreign equity returns

A new study demonstrates that the identification of correct national markets in which to invest is a powerful contributor to superior performance in foreign equity markets.

As an increasing number of institutional investors are diversifying their investment portfolios internationally, the interest in factors affecting foreign equity returns has grown. The results of this study indicate that the national factor (the return of the broad capitalization weighted index of the particular national equity market) is the single most important factor for explaining an equity's return. The national factor accounts for approximately half of the return variation of individual stocks, or as much as all other factors combined. From this evidence, it is clear that risk reduction is better achieved by diversifying across countries than by diversifying across other equity characteristics and that a most powerful contribution to superior investment performance would be the identification of correct national markets in which to invest.

Previous studies by Lessard[1] and by Solnik[2] have identified the national factor as most important when examining return data from 1966 through 1973. This study identifies the proportions of individual equity returns which are explained by the national, world, industry, and size of firm factors, and what proportion is explained by all other factors combined. The returns examined are from 1978 and 1979, thus the results should have strong implications for today's investment strategy decisions.

Below the company name in Exhibit 1 is the size, or market capitalization of the firm, in millions of U.S. dollars. The monthly percentage price appreciation or depreciation of each company's stock, in U.S. dollar terms, was collected from Capital International Perspective for each of nine months, beginning with November, 1978.

Also collected from Perspective were the monthly percentage changes in each national market index, each industry index, and the world equity index, for the same nine months. The national index for a particular country is the capitalization weighted index of the prices of that country's equities. The industry index is the capitalization weighted index of the prices of all companies (from all countries) in that particular industry. The world index is the capitalization weighted price index of all firms within Capital International's national and industry indices and is a broad index of the entire world equity market. As of January, 1979, Capital International included a total of 1,110 companies in its 18 national and 33 industry indices.

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The returns of the companies (all companies over each of the nine months) were regressed on the various explanatory factors (national return, world return, industry return, and size) to see how much of the return variance was explained by each factor. Exhibit 2 contains the results of each regression run. The R^2 is the proportion of total variance which is explained by the regression equation.

Run #1 shows that 48.4 percent of the company return variation (by this we mean variance) is explained by the national index return, while runs #2 and #3 show that the world and industry factors each explained 19.3 percent of the variation. Run #4 shows that the size of the firm explained only 0.6 percent, or virtually none of the company return variation. Runs #5, #6, and #7 clearly demonstrate that the factors contain mutually redundant information. Run #5 shows that the world and national factors together explain 48.6 percent of the company return variation, which is only 0.2 percent more than was explained by the national factor alone. In Run #6, we see that the national and industry factors together explained 49.7 percent of the variation, or just 1.3 percent more than the national factor alone. The national, world, and industry factors (Run #7) together explained 49.9 percent of the variation, and the addition of the size factor (Run #8) increased this to 50.4 percent. The remaining 49.6 percent was due to all other factors which we have omitted.

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[1] *Donald R. Lessard. "World, Country, and Industry Relationships in Equity Returns,"* Financial Analysts Journal *(January-February, 1976), and "World, National, and Industry Factors in Equity Returns,"* Journal of Finance *(May, 1974)*

[2] *Bruno H. Solnik.* European Capital Markets *(Lexington Books, 1973).*

It is interesting to observe the explained return variation after subtracting one of the factors from the company returns. For Runs #9, #10, and #11, the world returns are subtracted from the company returns, and the result is regressed on other factors. Run #9 shows that even after subtracting the world return, the national factor explained 32.3 percent of the remaining variation, while Run #10 shows that the industry factor explained only 4.6 percent of the remaining variation, and Run #11 shows that virtually all of the information contained by the industry factor was also contained by the national factor. For Runs #12 and #13, the industry return is first subtracted from company returns. The world factor explained only 1.5 percent of the remaining variation (Run #12), while the national factor (Run #13) explained 29.9 percent of the remaining company return variation.

Diversification is better obtained across national equity markets.

The final two regression runs demonstrate that the national factor contains virtually all of the explanatory information of the world and industry factors. The national market returns are subtracted from the company returns, and the result is regressed on the other variables. Run #14 shows that the world factor explained almost none of the remaining variation, while Run #15 shows that the industry factor explained only 0.7 percent of the remaining company return variation.

Implications for investors

Individually, the national factor explained 48 percent of individual equity returns, the world and industry factors explained 19 percent each, and size had little apparent effect. Virtually all of the explanatory information contained by the other factors is already contained by the national factor. The following implications might assist those who are planning to invest in foreign equities, when structuring their international investment programs.

1. If diversification is a goal, it can be better obtained by diversifying across national equity mar-

EXHIBIT I **Countries, Industries, and Companies**

	Banking	Beverage and Breweries	Building Components	Chemicals	Non-Ferrous Metals	Food and Household Products	Insurance	Machinery and Engineering	Merchandising
Australia	Bank of New South Wales $659	Tooth & Company $131	Blue Metal Industries $83	ICI Australia $350	MIM Holdings $1010	Arnotts $76	MLC $31		G. J. Coles $432
Canada	Canada Permanent Mortgage $126	Seagram $1101	Genstar $535	Du Pont $158	INCO $1558	George Weston $233		Massey-Ferguson $231	Hudson's Bay Company $561
France	Credit Foncier de France $334	Perrier $389	Generale de Founderie $57	L'air Liquide $1115	Pechiney Ugine Kuhlmann $571	Beghin-Say $146	La Concorde $57	Schneider S A $129	Carrefour $713
Germany	Wurttembergische Hypothekenbank $85	Lowenbrau $110	Pegulan Werke $80	Bayer $2875	Metallgesellschaft $507	Suddeutsche Zucker $204	Allianz Versicherung $1280	Gutehoffnungshutte $1012	Horten $330
Italy	MedioBanca $294	Gio Buton $94	Italcementi $173	Rumianca $44	Smi-Metali $29	SME $251	Assicurazioni Generali $1048	Ernesto Breda $23	La Rinascente $109
Japan	Shizuoka Bank $546	Kirin Brewery $1284	Sumimotot Cement $152	Japan Catalytic Chemical $186	Nippon Mining $526	Lion Fat & Oil $155	Sumimotot Marine & Fire Ins. $463	Mitsubishi Heavy $1648	Daimaru $351
Singapore	Oversea Chinese Banking Corp. $589	Fraser & Neave $161	Tasek Cement $97	Chemical Co. of Malaysia $70	Straits Trading $184	Cold Storage $113	Great Eastern Life $51	Tractors Malaysia $168	Robinson $39
Switzerland	Banque Cantonale Vaudoise $240		Forbo $142	Ciba-Geigy (Inh) $2690	Aluminium Suisse (Nom) $845	Hero Lenzberg $93	Helvetia $126	Oerlikon Buhrle (Inh) $2112	Jelmoli $273
United Kingdom	National & Commercial Banking $414	Distillers $1677	London Brick $81	Laporte Industries $127	Rio Tinto Zinc $1497	Tate & Lyle $166	Pearl Assurance $197	Hawker Siddeley $790	Curry's $99

The number below the company name is the total market capitalization of the company's equity in millions of U.S. dollars as of June 29, 1979.

The three X-ed modules of the matrix are three cases for which a good industry fit could not be found for the particular country.

The industries and countries were first chosen randomly from the Capital International groupings. The company in each module was then selected randomly from among all those which were eligible (same country and industry). These companies' returns were then studied. The returns were monthly, over a nine-month period which began with November, 1978.

EXHIBIT 2 **Regression Results**

Run #1: COMPANY =	−.31	+ .90 * NATIONAL				R^2 = .484
	(−1.41)	(25.54)				
Run #2: COMPANY =	−.46	+ 1.42 * WORLD				R^2 = .193
	(−1.62)	(12.91)				
Run #3: COMPANY =	−.11	+ 1.05 * INDUSTRY				R^2 = .193
	(−.38)	(12.89)				
Run #4: COMPANY =	.29	+ .10 * SIZE				R^2 = .006
	(.75)	(2.01)				
Run #5: COMPANY =	−.41	+ .86 * NATIONAL	+ .17 * WORLD			R^2 = .486
	(−1.79)	(19.88)	(1.56)			
Run #6: COMPANY =	−.47	+ .82 * NATIONAL	+ .31 * INDUSTRY			R^2 = .497
	(−2.14)	(20.48)	(4.19)			
Run #7: COMPANY =	−.37	+ .85 * NATIONAL	− .30 * WORLD	+ .46 * INDUSTRY		R^2 = .499
	(−1.64)	(19.83)	(−2.00)	(4.38)		
Run #8: COMPANY =	−.78	+ .85 * NATIONAL	− .28 * WORLD	+ .43 * INDUSTRY	+ .09 * SIZE	R^2 = .5[illegible]4
	(−2.77)	(19.83)	(−1.83)	(4.14)	(2.40)	
Run #9: COUNTRY — WORLD =	−.90	+ .66 * NATIONAL				R^2 = .323
	(−3.94)	(18.22)				
Run #10: COUNTRY — WORLD =	−.49	+ .47 * INDUSTRY				R^2 = .046
	(−1.78)	(5.82)				
Run #11: COUNTRY — WORLD =	−.80	+ .72 * NATIONAL	− .18 * INDUSTRY			R^2 = .328
	(−3.49)	(17.07)	(−2.32)			
Run #12: COUNTRY — INDUSTRY =	−.37	+ .36 * WORLD				R^2 = .015
	(−1.32)	(3.26)				
Run #13: COUNTRY — INDUSTRY =	−.83	+ .64 * NATIONAL				R^2 = .299
	(−3.61)	(17.22)				
Run #14: COUNTRY — NATIONAL =	−.40	− .03 * WORLD				R^2 = .000
	(−1.74)	(−.36)				
Run #15: COUNTRY — NATIONAL =	−.55	+ .15 * INDUSTRY				R^2 = .007
	(−2.48)	(2.23)				

COMPANY = Monthly returns (in %) of the companies.
NATIONAL = Monthly returns (in %) of the national equity market indices.
WORLD = Monthly returns (in %) of the world equity market index.
SIZE = Market capitalization of the company in 100 million U.S. dollars.
INDUSTRY = Monthly returns (in %) of the industry indices.
R^2 is the proportion of the dependent variable's variance which is explained by the regression equation.
Parentheses contain t — statistics for regression coefficients.

kets than by diversifying across industries.

2. The selection of the countries in which to invest and the allocations to the respective countries are more important for investment returns than are the selection of and allocation to industries or other sectors. The most important determinant of the portfolio's return will be the percentages invested in the respective national markets.

3. The investor may profitably invest in country indices with a relatively small ability to predict the prospects of the national markets. A much higher degree of predictive ability would be necessary to successfully invest based upon forecasts for industries or other sectors of equity markets. ☐

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Nachman Corp. v. PBGC.[11] These limitation of liability clauses would be effective to the extent that they limit an employer's liability in excess of the 30 percent limitations of ERISA § 4062(b). The courts reasoned that because an employer can limit its liability, there must be a liability capable of being limited. That liability is an employer's direct liability to its employees for the pension benefits it has promised.

The practical effect of these decisions is potentially far-reaching. On the enactment of ERISA, many single-employer plans were amended by the deletion of the limitation of liability clauses. With the Supreme Court's decision in *Nachman,* and now the Third Circuit's decision in *Murphy v. Heppenstall,* employers which maintain single-employer plans would be well advised to reexamine their potential liabilities under their plans and to determine whether the adoption of a limitation of liability clause is permissible and proper. Moreover, it is apparent that the courts will carefully review the significance of the wording in a collective bargaining agreement which purports to limit liability or, conversely, makes an unconditional promise of a pension benefit. ☐

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[11] *48 U.S.L.W. 4524, 100 S.Ct. 1723 (May 12, 1980).*

A pension fund alternative: Investing in timberland

(Continued from page 34)

lished and implemented. The average investor simply does not have the tools or the knowledge to purchase and sell timberland advantageously. Any number of people or institutions will offer their "help" in acquiring, managing, or purchasing timber for an investor. Most of these people have a financial interest in the timber owner's conclusion.

To insure the best interest of the investor, a registered forester is indispensable, or, for best results, the assistance of several consulting forestry firms is required. Here again, a pooled fund offers distinct advantages. The manager of the fund can utilize the strengths of various firms by identifying their specialties and areas of geographic expertise.

Acquisition and appraisal go hand in hand, and a forester is the most qualified person to make an accurate appraisal of timberland. The dirt can be appraised similarly as any real estate, but timber is another matter. An inventory must be conducted that not only identifies the number of trees, but also the diameter class and type of tree by species. Several samples must be taken for each separate stand within a tract of timberland, and an accurate assessment must be made of the number of acres and volume of wood per acre as well as the growth rate. This data must be combined with stumpage prices for various hardwood and softwood classes such as pulpwood and sawtimber.

Just as the money management industry has its own language, so does the forest industry. Only a professional forester has the knowledge to interpret these reports from which acquisition, management, and sale decisions can be made.

With the possible exception of one major timber company, virtually no forest product company is self-sufficient in timber. As a result, many of the major companies try to arrange long-term cutting contracts or "right of first refusal" arrangements with a timber owner. Because there are numerous other buyers, including foreign buyers, in the marketplace, this kind of arrangement may not be in the best interest of the timber owner.

The best way to sell timber is through the sealed bid method. Bids for the same stumpage will vary widely according to the requirements of the various bidders at the time of the bidding. As a result, an owner may get a price significantly above "current market values." Once again, the knowledge and assistance of a professional forester are indispensable.

In summary, timberland seems to be an ideal investment for retirement funds. Most sponsors can take a small portion of their fund and invest it in timberland. Although the time frame of the investment is longer than most stock and bond investments, it is similar to most real estate investments. In return for his patience, a sponsor can look forward to the probability of real rates of return, improved diversification, and an investment that increases in volume each year. ☐

"But the pension fund was just sitting there"

(Continued from page 56)

service liabilities, their 79 percent figure was used.

Putting these asset and liability figures together, we find there are $341 billion in private defined benefit assets, plus $203 billion in state and locals, or a total of $544 billion in defined benefit assets, facing aggregate vested liabilities of $664 billion, and aggregate accrued liabilities of $847 billion. If we use the aggregate pension asset figure of $653 billion for all private and state and local plans, we find those assets facing estimated aggregate vested liabilities of $774 billion and aggregate total obligations of $957 billion, rounded to $775 in vested liabilities and $955 in total liabilities. (Of course, to meet total accrued obligations of continuing plans, the assets will grow from both investment earnings and new contributions.)

The message for Gary Trudeau, then, is probably just what that philosopher expected. The pension fund is indeed sitting there, but it is not *just* sitting there. Lava-Lava Lenny's pineapple shortage is a real need, but the pension fund is already wholly occupied meeting other real needs. ☐

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AUGUST 1981

Pension World

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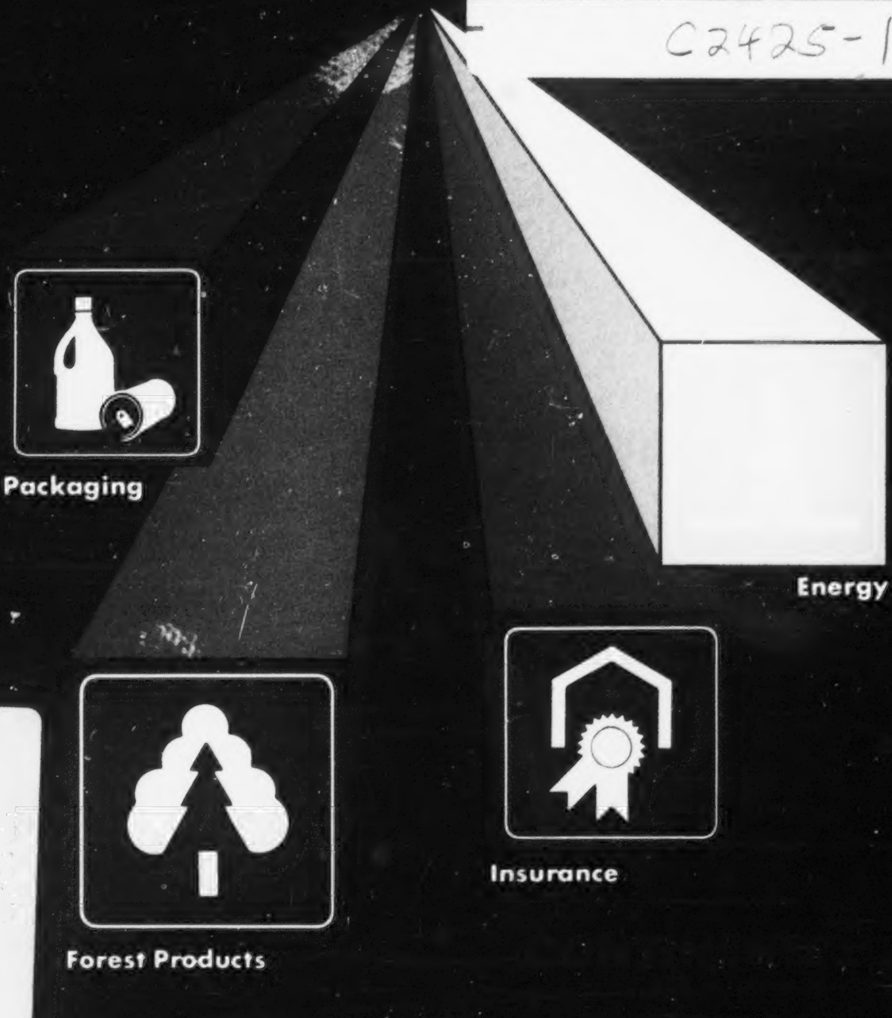
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Home Equity Conversion – A Pension Fund Vehicle?

Self-Funding – Do You Really Save?

Investing in Colored Gems

Pension World

August 1981
Volume 17 Number 8

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Features

Managing the risk/return of Continental's fund by Ronald Derven **17**
Walter R. Good, vice president/pension asset management of Continental Group, relates the company's systematic approach to charting the pain threshold for its $700 million pension fund.

Colored precious gems for pension funds by Jack S. D. Abraham **22**
An institution considering jewels for its fund should not necessarily stick with diamonds; rubies, sapphires, and emeralds can make dandy investments, as well.

Home equity conversion — a pension fund vehicle? by Donald A. Smart **28**
This innovative real estate instrument is receiving increasing scrutiny from pension investors — including several large state funds.

Review of the Multiemployer Pension Plan Amendments Act of 1980 by James F. Gill and Michael F. O'Toole **31**
A piece of legislation so vast that some have claimed it makes ERISA look simple, the new Act has established conditions for withdrawal liability, payment and resolving disputes, plans in reorganization, and more.

Pension World Basics: The actuary's role in pension plans by Elinor Merl **36**
The job of one of the most misunderstood, yet most critical, pension fund advisors is explained in depth by a professional benefits consultant.

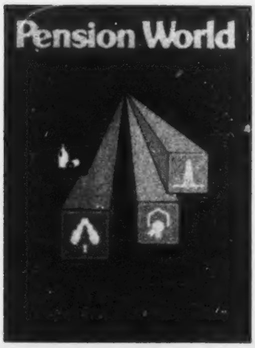
Accounting principles for defined benefit plans by Harold Dankner and Murray H. Goldstein **41**
Since 1967, employers have been accounting for the cost of providing pension benefits in accordance with Opinion No. 8. A recently announced Financial Accounting Standards Board project may change all that.

Essential aids in keeping pension funds on target by Ronald Derven **45**
A wealth of evaluative tools on subjects ranging from pension fund performance to money manager comparisons are available to keep funds performing up to par.

Managing the dynamics of self-funded plans by Stephen D. Brink and David W. Krueger **48**
Approximately 25 percent of employee health benefits are now provided through self-funded plans, and these have created a number of new management responsibilities for plan sponsors.

Departments

Guest Editorial 4
Letters to the Editor 6
International Pension World 8
Washington Newsletter 12
Pension News 51
Pension People 56
Meetings & Conventions 57
Pension Resources 59
Arbitration Awards 60



Cover: **Continental Group is comprised of four broad industries — packaging, forest products, insurance, and energy. The company's pension fund is equally diversified, and how that asset mix is managed begins on page 17.**

BPA
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Colored precious gems for pension plans

Traditionally, when Europeans and Asians have been worried about inflation, political turmoil, or war, they have turned to precious gems for the ultimate financial security. Now high inflation combined with low real returns from savings accounts, bank certificates, and bonds have prompted American investors to diversify their portfolios with hard assets such as precious gems.

These are perhaps the hardest asset. Ounce for ounce, precious gems are several thousand times more valuable than gold. Diamonds, rubies, sapphires, and emeralds represent concentrated wealth that is easily stored and protected, and effortlessly transported.

Diamonds led the way

Diamond prices were the first to increase sharply. In part, this is because diamonds are the best-known precious gems. The historical ratio of diamond prices to ruby prices is approximately two to one. However, with the advent of the reproducible grading standards for diamonds and aggressive advertising and promotion by gem firms, the ratio is now a disproportionate six to one.

Only recently have certificates for colored stones become accepted in the trade. Further, gem investment firms are moving aggressively into the marketing of precious gems. Over the next several years, the price of colored stones should continue upward as the liquidity factor increases.

Mine production lags

One might expect that the price increases would stimulate greater mine production, but this is not the case. Investment-quality precious gems come to market in a trickle as they have for centuries.

Precious gem mining is unbelievably primitive. It is almost all hand labor. It is not practical to ship large-scale mining equipment far into Asian jungles when a deposit is smaller than a football field. One travels for miles in a jeep along forbidding, narrow, muddy roads to a small clearing that is the mining area.

There is no mechanical way to distinguish precious gems from surrounding rock. By contrast, diamonds stick to grease, so crushed ore is run over greased belts. The diamonds stick to the belts, and everything else is washed away. Diamond mining is highly sophisticated, but rubies, sapphires, and emeralds must depend on primitive laborers. Using a pick and shovel, the workers pry chunks of dirt and rock loose, searching for a crystal that might be a gem, then they wash these rocks just as forty-niners panned for gold.

The operations are easily disrupted by bad weather. If it is too dry, there is no water for washing the dirt away from the gems. Too much rain floods the mining areas and makes the roads impassable.

Precious gem deposits tend to be located in politically volatile regions. Sometimes fear of guerrillas or bandits keeps laborers away from the mines. Every year, people are killed around the mines in Thailand, Cambodia, and Colombia. A socialist regime has virtually shut off the flow of gems from Burma, a legendary source.

Even though each precious gem comes from a number of geographical sources, not all areas yield investment-quality stones. For example, East African as well as Afghanistan, Pakistan, and Indian rubies have too many internal flaws. Australian rubies are too dark. Ceylon rubies are too pinkish. Burmese rubies are very desirable, and many Cambodian rubies are investment-quality, but as mentioned, rubies from these countries are virtually unavailable. The only steady source is Thailand.

Australian and African sapphires are too dark, and they have a higher percentage of gray and green. Kashmir as well as Burmese sapphires make news when they come on the market; they are so rare. Montana sapphires are too small. The primary sources of investment-quality sapphires are Ceylon, Thailand, and whatever refugees manage to smuggle out of Cambodia.

Emeralds come from Afghanistan, Pakistan, India, Brazil, Zimbabwe, Lesotho, Australia, and Russia, but these are minor sources for investment qualities at the present time. Finds have been reported in South-West Africa, Mozambique, Madagascar, and Angola. The only significant sources for investment-quality emeralds are Colombia and Zambia.

The best buys now

As market conditions change, one precious gem might become a better buy than another. Or certain sizes and qualities become better buys.

Right now, rubies and sapphires are especially attractive investments. Rubies are the rarest of the four precious gems. Yet rubies are a fourth to an eighth the price of comparable quality diamonds. Sapphires are an eighth to a sixteenth the price of comparable quality diamonds.

Sapphires, like rubies, are com-

---

by **Jack S. D. Abraham**
President
Precious Gem Resources, Inc.
New York, N.Y.

Table 1

Thai Ruby Price History*
(Investment Grade, 1-Carat)

Color Rating	May 1979	December 1979	March 1980	June 1980	September 1980	December 1980	March 1981
3.5	$2,250	$5,250	$11,875	$10,625	$11,250	$13,750	—
4.0	1,625	3,125	6,750	6,250	7,000	8,600	$8,200
4.5	1,200	2,200	4,125	3,750	4,125	5,600	5,250
5.0	1,100	1,725	2,750	2,625	2,750	3,750	3,375
5.5	875	1,375	2,395	2,125	2,200	3,000	2,750
6.0	750	1,075	2,000	1,750	1,875	2,375	2,250

*The above prices would be 10-20 percent lower for institutional purchases. This chart reflects the approximate selling price that investment dealers might charge their customers. It includes a markup over the inter-trade prices of Precious Gem Resources, Inc., for Thai rubies with the AGL parameters listed below:

Tone:	75-85	Proportions:	Good (6)
Brilliancy:	40-50% (average)	Finish:	Good (6)
Clarity:	[illegible]I_1		

posed of a mineral called corundum. When chromium oxide is present, corundum is red, and we refer to it as ruby; when it comes in another color such as blue, pink, purple, orange, gold, yellow or green, we refer to it as a sapphire. Blue, of course, is the most highly valued color, followed by orange (padparadja) and pink; other colors are worth a fraction as much. Because blue sapphires are not as popular as rubies, they are less expensive — about a fifteenth the price of comparable quality diamonds. Investment-quality blue sapphires should perform nearly as well as rubies.

Most emeralds come from relatively stable countries, Colombia and Zambia. With peace in Zimbabwe, emerald production in Africa will probably be stepped up. Iran, an important emerald market, has stopped buying since the Khomeini revolution, causing price reductions in commercial-quality and certain investment-quality material. Only very clean, top quality emeralds have performed well.

The rarity factor of rubies, sapphires, and emeralds argues for a realignment to the historical two to one ratio. Colored precious gems are 30 to 50 times more rare than diamonds and are, therefore, significantly undervalued.

Rarity is a major factor in establishing the prices of other collectibles — art, coins, stamps, and antiques.

Parameters for gems

Precious gems are not created equal. They differ in four categories: color, clarity, cut, and carat weight. Each can substantially affect the value of a gem.

Color. The most important factor in determining the quality and value of precious gems is color. Two investment stones of equal weight, cut, and clarity might vary more than 1,000 percent in price as a result of a difference in color. In diamonds, one looks for absence of color, but in rubies, sapphires, and emeralds, one looks *for* color.

The two dimensions of color are purity and the amount of color or tone. Purity indicates the competition between the primary color (i.e., red in a ruby, blue in a sapphire, green in an emerald) and the secondary colors. Tone refers to the intensity of the color present.

Mother nature does not provide us with 100 percent pure color in gems. The higher the percentage of primary color present in the stone, the lower its grade, on a scale of 1 (excellent) to 10 (poor). The purest gems on the market today with any regularity have about 70 percent primary color, graded 3.5 to 4. Gems graded 1 to 3 are virtually nonexistent.

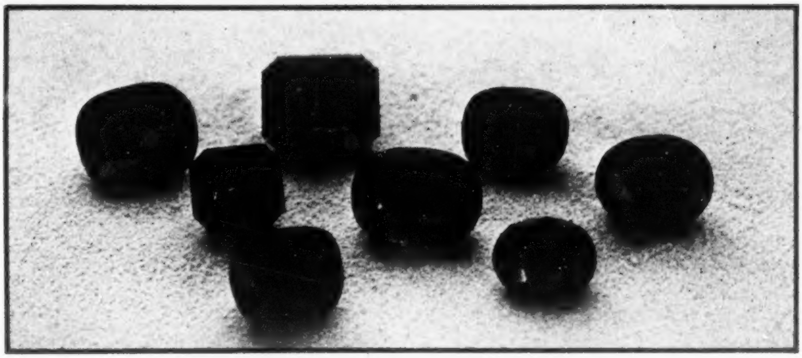
Clarity. This refers to internal inclusions and surface characteristics. They are not as important as in diamonds. Clarity varies dramatically with the species and variety of a gem. Minor internal inclusions and surface characteristics may be present even in the finest precious gems.

Carat weight. Gems are weighed in carats — 142 per ounce. In the United States, investment gems should be larger than a carat; European investors usually consider two carats a minimum. The value per carat increases with the size of a gem, e.g., a two-carat ruby is about twice as much per carat as a one-carat ruby. This fluctuates according to market conditions.

Cut. The Far Eastern cutters, who handle most rubies and sapphires, traditionally try to retain as much weight as possible by cutting close to the shape of the rough or

Tips for prudent investing in gems

1. Learn as much as possible about precious gems.
2. Buy only from a colored precious gem expert. Remember, a diamond expert may know very little about rubies, sapphires, and emeralds.
3. Deal only with reputable suppliers. Select companies with strong resources and financial backing who will assist you when you want to remarket the gems.
4. Buy from someone who will keep you abreast of world market conditions and how they affect your gem holdings.
5. Inquire about the supplier's remarketing services.
6. Buy as close to wholesale as possible. Prices can vary a great deal.
7. Buy investment-quality gems only.
8. Insist on a certificate when you buy a gem.
9. Be prepared to hold your gems for at least three years. The longer they are held, the more they should appreciate.



uncut gem. Symmetry and good proportions are secondary to weight retention; they are less important than in diamonds.

The shape of rough rubies and sapphires usually favors a cushion antique or oval cut — these are considered standard. Most emeralds lend themselves to a rectangular cut (emerald cut) — the standard for emeralds. Nonstandard cuts are worth 5 percent to 15 percent less, except for round brilliant cuts, which command a 5 percent to 10 percent premium over standard cuts.

Specialized training and scientific equipment are required to identify as well as to grade colored precious gems. Color analysis is the most difficult function.

Surprisingly, most jewelers, gemologists, and even gem dealers are not qualified to grade colored precious gems because they lack the necessary training and experience.

Several independent gemological laboratories certify gems. A certificate from the Gemological Institute of America (GIA), European Gemological Laboratory (EGL), and International Gemological Institute (IGI) provides weight, measurement, and test results indicating whether a stone is natural or synthetic. These certificates do not include any indication of quality as reflected in price.

Today, many dealers believe the most informative and specific colored precious gem certificate is offered by American Gemological Laboratories in New York City. A more general certificate is offered by United States Gemological Services (USGS) in Santa Ana, California.

Investors use precious gems to hedge their portfolios against inflation, monetary crisis, and political turmoil.

As can be seen from Table 1, all investment-quality rubies appreciated better than 150 percent between May, 1979, and September, 1980. The better the grade, the higher the percentage of appreciation. Sapphires and some emeralds also did well.

Colored precious gems are going into IRA's, Keogh's, and qualified corporate plans. (See Table 2.)

There is little likelihood that colored precious gems will become the darlings of the bigger pension funds in the near future. First of all, the fiduciaries running these funds perceive investments of this sort to be "too new," untried," and, perhaps, not prudent, despite legal rulings and ERISA policy to the contrary.

The simple reality is that there are just not enough of these gems available to make a worthwhile investment commitment for the GM's, AT&T's, and IBM's. If one of the top 100 funds put just a small percentage of its assets into gems, existing inventories would be depleted immediately.

Small to intermediate size funds, on the other hand, can quite handily invest $50,000, $500,000, and even $1 million dollars in gems without creating a market dislocation. This could account for up to 10 percent of the fund's assets. In the IRA and Keogh accounts, it is not uncommon to see 50 to 100 percent invested in precious gems, depending on the investment attitude, objectives, and age of the owner. Generally, the dollar amount invested will be considerably less, however, than in a qualified corporate plan.

Can and should the corporate plan diversify into gems? Enough has been written since ERISA that no one any longer questions the legality of this type of investment. The *should* part of the question then deals with prudence. You ask, "Is it prudent to include precious gems in my plan? Can they provide the diversification and inflation hedge needed to satisfy the prudent man rule on one hand and provide our participants with an investment vehicle to stay ahead of inflation or the other?"

Although the answer is *yes*, we do not advocate a "single-stone" approach. The key is a carefully structured, diversified portfolio of

(Continued on page 58)

Table 2 Sample Precious Gem Portfolios for Pension Funds

***Portfolio #1* — $250,000, 5-year investment period**

50% Rubies	**1-3 carat sizes**
35% Sapphires	**1-5 carat sizes**
15% Emeralds	**1-3 carat sizes**

***Portfolio #2* — $250,000, 10-year investment period**

50% Rubies	**1-3 carat sizes**
30% Sapphires	**1-5 carat sizes**
20% Emeralds	**1-3 carat sizes**

***Portfolio #3* — $500,000, 10-year investment period**

45% Rubies	**1-4 carat sizes**
30% Sapphires	**1-10 carat sizes**
25% Emeralds	**1-4 carat sizes**

***Color* — in all three portfolios should be:**

Rubies 3.5*-6.3
Sapphires 3.5*-5.5
Emeralds 3.5*-5.5

***3.5 is extremely rare. When available, it should be included in the portfolios.**

It is imperative to have a well-balanced portfolio of grades/tones and sizes that reflects the availability of the individual varieties of gems in the world market.

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International Pension World

(Continued from page 10)

time where the state and employer take care of the individual. Martin indicated that from the Stone Age through today, the earth has contained some 40 to 50 billion people, about one-tenth of whom are alive today. Another 10 billion people will be added to our earth over the next 10 years, which will create enormous problems.

Martin indicated that we are making promises to ourselves that must be kept by our children. He said that the *promises* were made in the '60's, the *expectations* were of the '70's and the *fulfillment* will be in the '80's and thereon. He closed his remarks by suggesting that perhaps defined contribution or money purchase schemes may hold the answer for the future of occupational pension schemes.

There seemed to be a strong belief by the experts at the IBIS conference that perhaps benefit planners may have made promises based on the economic growth of the '50's and '60's, which raised the expectations of employees. Due to inflation and the slowdown of the economic growth in the Western World, we may have to cut back on our targets in order to meet the fulfillment. ☐

Colored precious gems for pension plans

(Continued from page 24)

precious gems. More dramatic than managing securities portfolios, selection, balance, and management of precious gems can show astounding variations.

Consider the importance of price ratios between diamonds, rubies, sapphires, and emeralds. If the historical ratios among the precious gems are unbalanced and/or the rarity or supply of one of the gems is changed, it would make sense to emphasize the undervalued gem in the portfolio. And what balance of color grades will spread the risk, yet offer the best appreciation potential? And, of course, what mix of carat sizes among the stones will minimize risk, enhance liquidity, and provide the highest appreciation?

These are many of the factors that go into designing a customized portfolio for a pension plan. This, however, is just the beginning. The performance must be monitored and valued at least once a year. In time, changes may have to be made, profits taken, a move made perhaps from rubies to sapphires.

Qualified advisors in the colored precious gem investment business are as scarce as quality gems. The advisor should be properly selected and the portfolio well-balanced. ☐

Multiemployer Pension Plan Amendments Act

(Continued from page 35)

Guaranteed benefits. Guaranteed benefits payable by the PBGC will be 100 percent of the first $5.00 of monthly benefit payment times years of service credit plus 75 percent of the next $15.00 of monthly benefit payment times years of service credit (Secs. 4022A, 4001).

New funding requirements. Future benefit increases must be funded over 30 years instead of 40 years. Future experience gains and losses may only be spread over 15 years instead of 20 years.

Withdrawal liability insurance. The Pension Benefit Guaranty Corporation has been directed to establish insurance for multiemployer plans against noncollectible withdrawal liability.

Abatement. An employer's withdrawal liability is abated if it resumes contributions to the plan and in some cases is forgiven. Regulations will issue.

Mergers. Mergers may take place under the following conditions:

1. The merger does not reduce any accrued benefits;
2. The merged plan is not expected to become insolvent;
3. Each plan entering the merger had an actuarial valuation for the preceding plan year based on recent data; and
4. The PBGC is notified at least 120 days in advance.

Disclosure. The Act gives the employer a right to a statement from the plan as to what its liability would be upon withdrawal. The plan, however, may charge a reasonable fee in connection therewith.

Delinquent contributions. It is now a violation of ERISA for an employer to fail to make multiemployer plan contributions required by contract, and action may be commenced in the Federal Court relative thereto. The Court must award interest, attorney's fees and costs, and liquidated damages in an amount as provided in the plan up to 20 percent of unpaid contributions [Secs. 4301(b) and 502(g)(2)].

Mistaken contributions. The Act has done away with the distinction between mistakes of fact and mistakes of law. Now mistaken contributions to a multiemployer plan may be returned six months after the plan administrator discovers the mistake [Sec. 403(c)(2)(A)].

Effective date. Most of the provisions of the Act are effective as of September 26, 1980, the date of enactment. Those relating to withdrawal liability and reorganization have other effective dates as noted above. ☐

Accounting principles for defined benefit plans

(Continued from page 42)

tants. Some of the more important findings of the FEI study include:

—Recognition of liability. Two out of every three respondents to the survey rejected the idea that some measure of an employer's pension obligation should be recorded as an accounting liability.

—Actuarial cost method. More than 73 percent of the respondents were against the mandating of a single actuarial cost method to determine expense. Many of those interviewed observed that this choice should be based on the financial characteristics of the sponsor and its plan. They emphasized that each plan and sponsor is unique.

—Disclosure. Respondents clearly identified pension expense as the most essential element in assessing an employer's pension costs. Disclosure of the actuarial present value of vested benefits and of the fair market value of the plan's assets was supported by more than two-thirds of the respondents.

Conclusion

Employer accounting for pension costs and other post-employment benefits is a very complex subject. Because of the complexity of the issues and the comprehensive manner in which they must be dealt with, the overall FASB project probably will take a number of years to complete. ☐

SEPTEMBER 1981

Pension World

The Magazine for Plan Sponsors and Investment Managers/ A Publication of Communication Channels, Inc.

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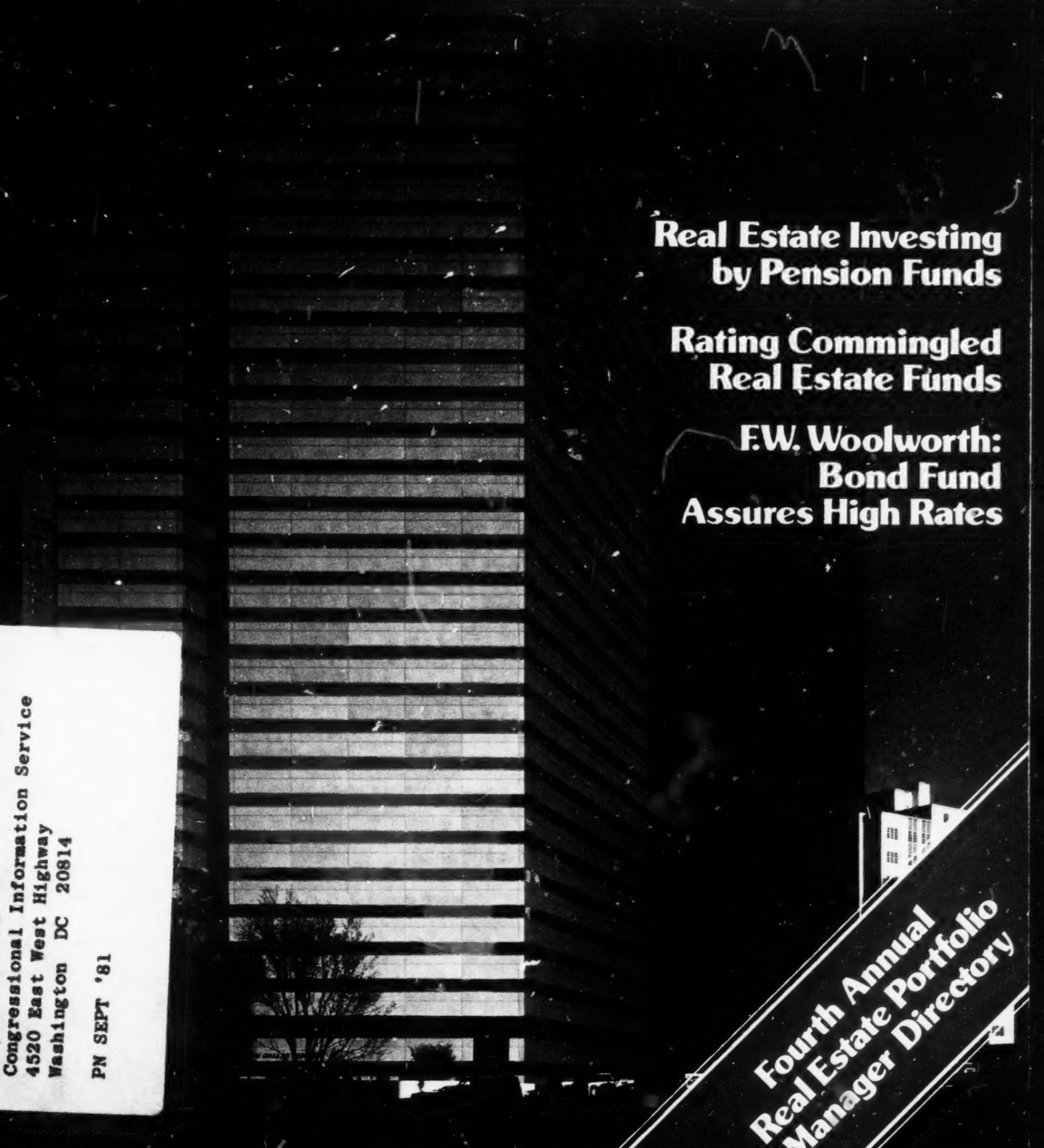

Real Estate Investing by Pension Funds

Rating Commingled Real Estate Funds

F.W. Woolworth: Bond Fund Assures High Rates

Fourth Annual
Real Estate Portfolio
Manager Directory

Congressional Information Service
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Features

Real estate investing by pension funds 15
Money Market Directories, inc., releases its latest figures on plan sponsor interest in real estate.

Rating commingled funds by William O. Brachman 25
An authority on the subject points out what to look for when shopping for the right real estate commingled fund.

F. W. Woolworth immunizes liabilities with bond fund by Ronald Derven 42
Enhanced by a dedicated bond program to pay older retirees, this century old, multinational retailer runs a $220 million benefits portfolio with a conservative balance.

On pension funds and real estate by Charles D. Ellis 56
The breadth of demand for real estate is extraordinary, according to the president of Greenwich Research Associates. However, several critical factors must be addressed by pension funds ready to dip their toes into the market.

A view through the eyes of a property manager by Fred Halperin 69
Every investment property has specific areas that can enhance the total value. Here, Coldwell Banker Real Estate Management Services' general manager sizes up four property categories.

4th Annual Real Estate Portfolio Manager Directory 83
Pension World's exclusive listing of real estate portfolio managers includes the names of more than 75 firms currently handling pension funds, plus their returns on investment, participation offered, fees, and more.

What Every Fiduciary Should Know: UBIT — the pension fund dilemma 98
by Seymour Zilberstein and Jeffrey D. Mamorsky
Both real estate and pension professionals have raised questions about the unrelated business income tax. This treatment of that subject is authored by two panelists from *Pension World* and *National Real Estate Investor*'s June conference.

Net-leased properties for pension funds by Jere S. Feldman 101
This kind of investment may offer rewards to those looking for missed opportunities in a particular property class that is being trampled by the herd.

Laying the groundwork with total benefits planning — Part I by Ronald Derven 104
As benefits are altered to conform to employees' changing demands and needs, employers are showing renewed interest in flexible setups.

Pension World Basics: Securities lending by pension funds by Lynn Strasbaugh 118
Since pension funds are relatively new to the securities lending game, this straightforward article by a financial consultant defines the industry and shows its advantages — and pitfalls.

Departments

Guest Editorial 4
Letters to the Editor 6
International Pension World 8
Washington Newsletter 10
Pension News 109
Pension People 114
Meetings & Conventions 115
Pension Resources 117
Arbitration Awards 123

***Cover:* The real estate industry's interest in pension funds is as sharp as the outline of this Dallas landmark. Is the attraction mutual? *Pension World*'s coverage begins on page 15.**

Cover Photo: One Dallas Centre, Dallas, Texas. Vincent A. Carrozza, Developer. Architectural Design by Henry Cobb, I. M. Pei & Partners.

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Survey

Real estate investing by pension funds

In June, 1981, Money Market Directories, Inc., distributed real estate questionnaires to the senior investment officers of the 1,200 largest corporate and government pension plans. Two hundred five completed questionnaires were returned, for a response rate of 17 percent. Unless otherwise indicated, the percentages given in the survey are based on those 205 responses.

Forty-four percent of the respondents currently own real estate and commingled real estate equity investments amounting to $2.3 billion, an average of $25.5 million per fund. This real estate ownership, as a percentage of portfolio assets, works out to 5.8 percent, an increase of 1.7 percent over last year's sample. In addition to real estate equity ownership, 31 percent have financed real estate by making $3.1 billion in mortgage and construction loans.

Within the next three years, our respondents plan to purchase real estate equities amounting to $3.2 billion. These purchases will be almost equally divided between individual real estate equity purchases and real estate commingled funds. One hundred twelve organizations, or 55 percent of our sample, plan to make these investments.

Of the 112 organizations, 99 are private pension funds who plan to invest $2.3 billion; the other 13 are government plans. From these figures, we estimate that the total private pension commitment to real estate over the next three years will be $13 billion. In last year's survey, we estimated that real estate holdings by corporate pension funds would increase at a rate close to $4 billion a year. This year's responses reflect that actual real estate ownership grew between $3 to $4 billion during the last 12 months.

Perhaps the most significant finding of this 1981 survey is the dramatic increase in the amount of assets that government pension plans (state and local governments) report will be invested in real estate equities. Currently, eight government funds in our sample, with assets of $6 billion, own only $84 million in real estate. But during the next three years, 13 government funds in the response group indicate they are planning to invest an additional $877 million in real estate equities. This would represent an increase in real estate ownership of over 1000 percent in our sample group.

The *1981 Money Market Directory* identified $186 billion as the total of state and local government pension assets. Of this, less than one-half of 1 percent, or $692 million, is currently invested in real estate. This low percentage of real estate ownership nearly duplicates the percentage of real estate ownership reported in our sample group. If we apply the ten-fold expected real estate increase in our sample group to this $692 million in real estate currently owned by all governments, we could conclude that nearly $7 billion in new real estate investments will be made by state and local governments during the next three years.

In view of this surprising figure, Money Market Directories discussed the intentions of these government funds with real estate professionals who have contact with them. The consensus was that while the intention to direct huge amounts of government fund assets to real estate is valid, there are factors that may prevent the actual sum from being quite as large as indicated.

Many government funds are prevented by state law from investing in real estate outside their state, which limits their participation in commingled funds that are diversified regionally or nationally. Also, local government funds will want to keep their investments near their locality, which puts them at a disadvantage in finding suitable prime properties. Consequently, our analysis is that, although government investments in real estate will increase significantly, they will not increase as rapidly as initially indicated by the survey.

Total pension fund assets are projected to increase from slightly over $600 billion currently, to over $2.5 trillion by 1995. We were interested in how today's pension fund investment officers think those assets will be invested 14 years from now. Following is the consensus of their estimates.

$ in Billions	**Percent**	
$1,225	49%	stocks
575	23%	fixed income
150	6%	international investments
150	6%	real estate
150	6%	real estate commingled funds
125	5%	mortgages
50	2%	venture capital
25	1%	collectables and precious metals
50	2%	other
$2,500 billion	100%	

The actual results of our 1981 real estate survey are presented in the following tables.

Do you regard real estate investments as an effective inflation hedge?

	1975	**1976**	**1977**	**1980**	**1981**
Yes	80%	62%	67%	86%	83%
No	15%	36%	29%	8%	11%
Did not answer	5%	2%	4%	6%	6%

Do you regard real estate investments as being capable of contributing consistency to your fund's performance?

	1975	**1976**	**1977**	**1980**	**1981**
Yes	71%	59%	59%	77%	83%
No	23%	39%	37%	18%	10%
Did not answer	6%	2%	4%	5%	7%

What would you regard as the minimum acceptable net cash yield to the fund from real estate equity investments?

	1975	**1976**	**1977**	**1980**	**1981**
Specified a minimum of 7%	5%	17%	21%	11%	18%
Specified a minimum of 8%	20%	15%	18%	13%	20%
Specified a minimum of 9%	22%	15%	17%	14%	11%
Specified a minimum of 10%	17%	21%	17%	17%	19%
Specified a minimum in excess of 10%	13%	13%	9%	21%	26%
Did not answer	23%	19%	18%	24%	6%

What would be your minimum expectation for annual appreciation from real estate equity investments?

	1975	**1976**	**1977**	**1980**	**1981**
Identified 2% appreciation as the minimum acceptable rate	23%	12%	9%	3%	1%
Identified 3% appreciation as the minimum acceptable rate	26%	18%	12%	4%	5%
Identified 4% appreciation as the minimum acceptable rate	16%	9%	6%	6%	8%
Identified 4 + % appreciation as the minimum acceptable rate	17%	37%	48%	66%	70%
Identified 6 + % appreciation as the minimum acceptable rate	—	—	—	—	46%
Identified 8 + % appreciation as the minimum acceptable rate	—	—	—	—	32%
Did not answer	14%	23%	21%	21%	14%

A recent change in the tax laws allows pension funds to purchase mortgaged imcome-producing property and to mortgage property themselves without incurring an unrelated business income tax. Will this fact increase the likelihood of your fund's purchase of real estate?

	1981
Yes	18%
No	74%
Did not answer	8%

Has your fund purchased real estate equity by participating in any of the following vehicles?

	1981
Direct purchase	8%
Limited partnership	4%
General partnership	1%
Corporations	2%

Has your fund participated in direct real estate investment utilizing the management expertise of an outside real estate counselor?

	1981
Yes	9%
No	83%
Did not answer	8%

If yes, what type of organization?

A. 26% insurance company
B. 26% bank
C. 10% investment banker
D. 5% developer
E. 26% independent real estate management firm
F. 21% broker or realtor

What do you regard as an acceptable management fee for your fund's participation in direct real estate investment utilizing an outside real estate investment counsel?

	1981[1]
½ of 1% annually of real estate under management	—
¾ of 1% annually of real estate under management	36%
1% annually of real estate under management	39%
1¼% annually of real estate under management	18%
1½% annually of real estate under management	—
2% annually of real estate under management	7%

[1] *Based on 19 responses.*

How do you value the real estate in your portfolio?

	1981[2]
At cost	30%
By replacement cost	7%
By income appraisal — capitalizing the value of the income flow	41%
Comparable property sale	7%
All of the above	15%

[2] *Based on 27 responses.*

What do you regard as an acceptable management fee for your fund's participation in institutionally sponsored pool-type real estate vehicles?

	1981[3]
½ of 1% annually of real estate under management	—
¾ of 1% annually of real estate under management	25%
1% annually of real estate under management	59%
1¼% annually of real estate under management	15%
1½% annually of real estate under management	1%
2% annually of real estate under management	—

[3] Based on 72 responses.

Does your fund intend to purchase new real estate investments during the next three years?

	1976		1977		1980		1981	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Yes	48	29%	52	29%	—	—	—	—
Yes — direct ownership	—	—	—	—	122	49%	38	18%
Yes — commingled	—	—	—	—	105	42%	89	43%
No	96	58%	96	53%	—	—	—	—
No — direct ownership	—	—	—	—	127	51%	167	82%
No — commingled	—	—	—	—	144	58%	116	57%

The direct ownership of real estate equities is distributed among property types as follows:

	Current Ownership[4]		Planned — Next 3 Years[5]	
Type	Amount (in millions)	Percent	Amount (in millions)	Percent
Office Buildings	$155	21%	$ 510	32%
Hotels	17	2%	53	3%
Apartments	29	4%	56	4%
Industrial	65	9%	228	15%
Small Shopping Centers	27	4%	38	2%
Medium Shopping Centers	36	5%	109	7%
Large Shopping Centers	74	10%	113	7%
Warehouses	95	13%	85	6%
Agricultural Land	47	7%	26	2%
Not Specified	177	25%	352	22%
Current Total:	$722	Total Additional:	$1,570	

[4] Response Group composed of: 25 corporation funds owning $645 million in real estate; 8 government funds owning $77 million in real estate.

[5] Response Group composed of: 29 corporation funds planning new real estate purchases of $938 million; 9 government funds planning new real estate purchases of $632 million.

Commingled ownership of real estate is distributed among different type sponsors as follows:

	Current Ownership[6]		Planned — Next 3 Years[7]	
Sponsor	Amount (in millions)	Percent	Amount (in millions)	Percent
Bank Commingled	$ 201	13%	$ 269	17%
Insurance Commingled	1,057	65%	755	47%
Other Common Trust Funds	349	22%	352	22%
Not Specified	—	—	243	14%
Current Total:	$1,607	Total Additional:	$1,619	

[6] Response Group composed of: 71 corporation funds owning $1,599 million in commingled; 1 government fund owning $8 million in commingled.

[7] Response Group composed of: 84 corporation funds planning new commingled purchases of $1,374 million; 5 government funds planning new commingled purchases of $245 million.

Which of the following investments do you classify as real estate?

	1981
Classified *Mortgages* as real estate	23%
Classified *Equity Participation Mortgages* as real estate	67%
Classified *Mortgage Securities* as real estate	26%
Classified *Construction Loans* as real estate	23%
Classified *None* as real estate	16%

Two relatively new concepts in mortgage financing for home ownership are the Variable Rate Mortgage and the Shared Appreciation Mortgage (SAM). Assuming you were able to purchase either in a pooled package, which would you prefer?

	1981
Preferred a SAM	54%
Preferred a Variable Rate	28%
Did not answer	18%

Would you choose either of them over a conventional pooled mortgage package?

Yes	52%
No	23%
Did not answer	25%

Sixty-three funds or 31 percent of our respondents are currently financing real estate activities. This financing is allocated as follows:

	1981	
Type	**Amount (in millions)**	**Percent**
Mortgages	$1,678	53%
Equity Participation Mortgages	106	4%
Mortgage Securities	1,297	41%
Construction Loans	56	2%
	$3,137	

Thirty-one funds or 15 percent of our respondents plan to finance an additional $1,090 million in real estate during the next three years.

	1981	
Type	**Amount (in millions)**	**Percent**
Mortgages	$ 366	34%
Equity Participation Mortgages	486	45%
Mortgage Securities	203	18%
Construction Loans	35	3%
	$1,090	

The information contained in this survey has been researched, edited, and copyrighted by Money Market Directories, Inc., publishers of the Money Market Directory, *the encyclopedia of pension funds with assets over $700,000 and their investment advisors. Included in Money Market Directories' data base is real estate ownership by all major U.S. pension funds. For further information, contact David Bowerman, vice president, 300 East Market St., Charlottesville, VA 22901, (800) 446-2810.*

Real Estate Highlight

Rating commingled funds

by **WILLIAM O. BRACHMAN**
Vice President
The Exchange National Bank of Chicago
Chicago, Ill.

Real estate today is becoming more accepted for diversification purposes by pension funds. It is estimated that 3 percent of the more than $600 billion in all pension fund assets is in real estate, a dramatic increase from even five years ago. That percentage is expected to increase steadily with continued inflation.

Historically, there has been a great bias against real estate investments. Fund trustees do not like either risk or complexity. On the surface, real estate appears to have both. In fact, however, its performance runs contrary to this perception. Real estate is actually less risky and volatile than many other investments. With the advent of pooled funds and the public reporting of their performance, it is possible to measure the results of real estate investment for the first time. To illustrate this, a real estate index that allows its direct comparison to other investments has been devised.

In developing the real estate index, the assets of three commingled real estate funds were used. These funds — PRISA, Equitable, and First Chicago's Fund — collectively represent more than $3.5 billion of income-producing property. A comparison of the annual rate of return during the '70's of this index with the Standard & Poors 500 Stock Index, the Salomon Brothers Long-Term Corporate Bond Index, 90-day treasury bills, and the C.P.I. shows the soundness of real estate as an investment. (See Figure 1.) The standard deviation for each instrument points out the risk factors associated with different investments. The real estate index is less volatile than either stocks or bonds, and therefore, can be interpreted to be less risky. Figure 2 on page 26 shows that during the last decade, the real estate index outperformed the C.P.I. considerably. This is significant to the corporate pension or profit-sharing trustee who wants to reduce risk, yet earn a healthy rate of return at the same time.

As real estate's performance is quantified, its popularity grows. The emergence of pooled real estate funds further adds to real estate's investment attraction. The funds offer an efficient means of investing in real estate by giving the investor diversity while eliminating management problems.

Just as all blue chip stocks have different performance records, so do the commingled funds. Many differ greatly in their structure, investment philosophy, and management style. It is important to analyze the following aspects of a commingled or pooled real estate fund before investing.

Organization

A fund can be structured in two basic ways: closed-end or open-end. The primary difference between open- and closed-end funds is the manner of purchasing and selling ownership units by the participants. A closed-end vehicle raises a specific amount of money and then becomes "closed" to additional investors. With a closed-end fund,

Comparative Annual Rates of Return for Periods Ending December 31

Market Indices	1 Year (1979)	3-Year Average (1977-79)	5-Year Average (1970-74)	5-Year Average (1975-79)	10-Year Average (1970-79)	10-Year Standard Deviation
Real Estate Fund Index[1]	21.6%	15.0%	8.4%	12.2%	10.3%	4.9
Standard & Poor's 500 Stock Index	17.4	5.0	−4.2	14.5	4.7	19.6
Salomon Brothers Long-Term Corporate Bond Index	−4.9	−1.1	5.6	5.6	5.6	8.0
90-Day Treasury Bills	9.8	7.4	6.0	6.6	6.3	1.8
Consumer Price Index (C.P.I.)	13.3	9.7	6.6	8.2	7.4	3.4

[1] A composite performance of commingled funds with aggregate assets as of December 31, 1979, of approximately $3 billion.

Figure 1

Source: Exchange National Bank of Chicago

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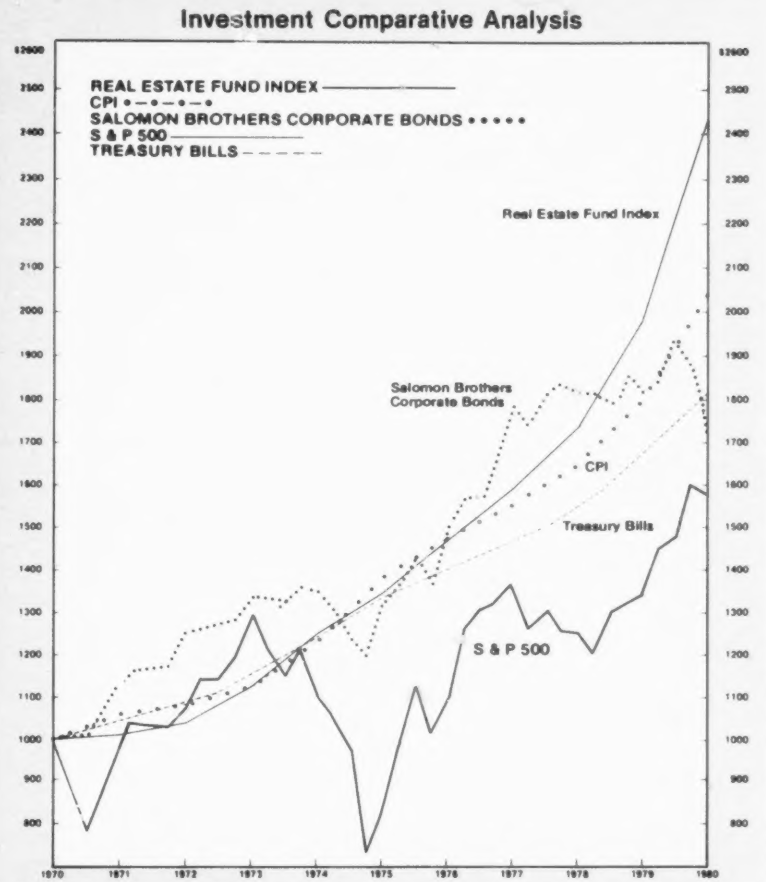

The above graph shows the relative values as of the end of each quarter shown of a single investment from January 1970 through December 1979 in a Real Estate Fund Index, Salomon Bros. Corporate Bond Index, Standard & Poor's 500 Stocks, 90-day Treasury Bills, and the Consumer Price Index (CPI).

Figure 2

Source: Exchange National Bank of Chicago

you are buying a participation and are committing your funds for a set time period, usually seven to 12 years. Traditionally, there is no penalty to withdraw funds from a closed-end fund, but usually you must find your own buyer, and that is not always easy.

An open-end fund is considerably more liquid. Although fund managers hope investors are in for the long haul, it is relatively easy to cash out of an open-end fund. Advance notice, however, is required. Units generally can be redeemed at the close of a calendar quarter by giving advance notice to the fund's management. This varies slightly from fund to fund, so it is good to be aware of the actual withdrawal policy before investing.

If you do decide to liquidate, make sure you do so as close as possible to the time the fund's properties are appraised.

Another factor to look for in the fund's structure is the method in which income is paid. Some funds may distribute the cash flow generated from properties; however, most funds reinvest cash flow, thereby adding to the fund's overall assets.

Management

Next, take a good, hard look at the fund's management.

First, evaluate management's track record in the real estate field. The fund's management should have sufficient expertise to set overall investment strategies that will not only protect an investor's principal but will also generate a substantial return. It is important to know from the beginning who is making investment decisions and by what criteria those decisions are made.

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estate, business, and financial expertise, with the major emphasis on real estate. It is essential that the fund's managers are privy to deals nationwide in order to make acquisitions and that they have the savvy to structure those deals profitably. As purchasing properties becomes more competitive, it is important to invest with those who have access to quality properties in appreciating areas and who have an efficient organization that can react quickly when opportunities arise.

Once you have determined the level of expertise of the fund's managers, it is important to discuss their further involvement in the fund's properties. Some funds strictly limit their management team to an advisory capacity, drawing on their knowledge but steering clear of properties in which they have a vested interest. Other funds have no such limitations, so it is a good idea to examine their objectivity about certain properties. The situation has existed where a manager invests the fund's assets in projects for which he has received a developer's fee, leasing commission, and management fee, as well as getting a fee for managing the commingled fund. Given the choice, it is cleaner to invest in a fund that has no conflict of interest among its managers.

Compensation

Take a look at turnover in the fund's management. Large turnover can mean different things. One, the fund may be an institutional training ground for junior managers who leave after a few years for greener pastures. It can also mean that the fund simply does not compensate well enough to keep good managers. Both of these situations should serve as warning signals to the investor.

Of course, long-term employment, in and of itself, means very little. Long-term management coupled with high fund performance is the key. This situation usually exists when management is compensated through an incentive arrangement.

Investment strategy

After you know who is managing the fund, find out all you can about the fund's investment strategy. There are diverse views regarding strategy, which is why it is so important first to know who is setting policy.

An advisory committee of one commingled fund was recently asked to rate on a scale of 0-100 (with 0 being interest in cash flow or yield and 100 being appreciation) their criteria for investing in a particular property. This committee is composed of real estate and business professionals. Collectively, they have $9½ billion of experience in developing, financing, buying, selling, and managing all types of income-producing properties nationally, including downtown and suburban office buildings, industrial warehouses, hotels, shopping centers, and apartment buildings.

Interestingly enough, appreciation was overwhelmingly the choice of this panel of real estate experts. They further agreed that the most important factor in a property's appreciation potential is its *location*, which is a factor rarely mentioned. Too often, fund managers emphasize excessively a particular property's yield. That kind of myopic view can eliminate substantial future gains.

Let us consider an example. Chicago's downtown is experiencing a massive facelift with its renaissance redevelopment of the Loop. Several years ago, at the first hints of the continuing project, partnerships were formed that began purchasing properties within the boundaries of the proposed project. These savvy shoppers were interested in long-term appreciation rather than short-term yields. One group bought a one-story building that housed a single retail establishment. Cash flow and yield were not terrific. However, they recently sold that property to a developer, realizing a multi-million dollar profit on a minimal investment.

Location was obviously the key factor in that building's appreciation, as generally is the case. When analyzing a fund's investment strategy, check out the emphasis placed on appreciation as opposed to yield. Look for a sense of balance between cash flow and appreciation.

Beyond that, ascertain what percentage of the fund's assets, if any, are leveraged. Historically, funds have acquired properties on all-cash basis both to be conservative and

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because an IRS provision taxed, as unrelated business income, all or a portion of the net rental income derived from leveraged properties owned by a real estate fund. One of the last acts of the Carter Administration was to eliminate the burdensome forms of this tax so that all of the income generated by properties acquired by funds will not be treated as unrelated business income of debt-financed property. As a result, many funds are starting to leverage some property purchases. In fact, this will become a more common practice in the '80's.

This is partially because of the increasing experience with the foreign investor, whose investment psychology differs from that in the United States. Foreign investors commonly view long-term mortgages not as a debt instrument, but rather as an asset. This, of course, technically is not the case, but can be thought of as such if the buyer is able to purchase a property with a long-term, fixed-rate mortgage that bears a single digit interest rate.

In a multi-tenant building, that leverage can really work for you as rental rates increase. The return will go up far faster than purchasing a property on an all-cash basis. Therefore, it becomes prudent to locate properties with single-digit, long-term debt and add them to the fund's portfolio. This is especially important since the availability of properties on an all-cash basis is dwindling. In the past, it was easier to buy all-cash because developers lacked construction take-out financing. This is not as prevalent today because of the lack of speculative construction and the difficulty in financing a project without either a take-out or considerable equity financing.

The question investors must consider is: what is a safe percentage of leveraged properties as opposed to unmortgaged assets? The investor certainly should think long and hard about a fund that has over 50 percent of its assets leveraged.

Property mix

Another area for analysis is the fund's property portfolio. The buzz word in this area is *diversification,* which is sound advice. Although location is of the utmost importance in property selection, it is also wise

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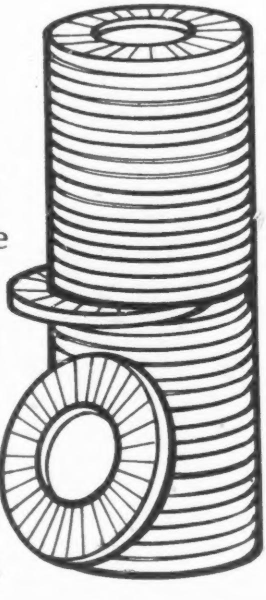

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to have a mix of property types. For example, in bad economic times, small retailers are among the first businesses to be affected. For this reason, it is probably best not to be heavily invested in shopping centers. A small percentage of the fund's assets might well be invested in some strategically located malls, but more than 50 percent in shopping centers is running a great risk, as it would be with any one type of real estate. Any market can run soft. The key here is to look for well-located diversity!

Find out if the fund purchases only completed properties or if they get involved in the actual development process. Traditionally, funds purchased only finished properties, but this is changing. Some institutions form joint ventures or enter presale development deals because of the dearth of available existing properties and the potential for superior return. Again, the prudence of this activity is dependent upon the experience of the people involved. Examine their track record in this area. If it is good, then there is no reason to avoid the fund. The presale agreement may commit the fund to purchase a completed property that may not have any tenants, thereby creating an extreme risk. If the fund managers have no experience in the development area *and* are involved in structuring that kind of deal, think twice.

Property management

After the fund purchases properties, somebody must collect the rents, keep the tenants happy, the buildings fully occupied, and, in general, manage the asset. This can only be accomplished with professional management, which is vital to good real estate performance. The diligent application of astute property management techniques can optimize return on investment by increasing cash flow and preserving asset value. Each property must be considered as a separate business with its own variable budget. The best thing to look for in this area is a Certified Property Manager (CPM), who is a professionally trained individual who will help optimize a property's return.

It is important to examine the objectivity of the on-site property managers. They may work for highly respected, multi-divisional real estate corporations, which may have a vested interest in your tenants. For instance, in one situation, a certain fund bought a building from a prominent real estate developer that also had a property management division. The fund retained the developer's property management arm to oversee the property. That same developer, shortly afterward, completed construction on a nearby office complex. Through his property manager, the developer solicited many of the fund's tenants for the new property. Not knowing the loyalties of the on-site manager can create problems down the line.

Since each property is a distinct business, property managers should establish separate annual budgets for every property. Individual managing agents should submit to the fund's management financial reports that include cash flow statements showing receipts and disbursements, budgets reflecting planned versus actual results, variances, and delinquency reports. The fund should retain an independent, outside engineering consultant to review and approve major expenditures, which should be subject to competitive bid.

The fund's property manager should have experience structuring leases to include renegotiation of rental rates, pass-through of taxes, utilities, maintenance, and insurance. In short, the building's tenants should be paying as much of the overhead as possible, and the fund's manager should make sure that this happens. He should also provide market intelligence as to profitable tenant mix and long-term leasing strategies.

Property appraisal

As investment managers become more sophisticated, they become very concerned with valuation techniques. This is to the benefit of the investor, who wants to protect himself as much as possible. If, however, you are comparing performance figures and track records among various funds, it becomes a difficult exercise because mathematically there is no precise measure. A recent study conducted by *Harvard Business Review* found that there is little standardization in the real estate appraisal process.

Although real estate performance measurement has come a long way, it is still operating in an inefficient market environment. There are no neat and tidy results as there are with the stock market. Therefore, it becomes important to understand valuation procedures. Some funds may be very constructive in their valuation, while others may be less so in order to beef up their results, which brings us right back to point number one: Know the fund's management and their philosophy.

One way to evaluate a fund's appraisal figures is to determine who performed the appraisal. Was it done by fund personnel, a related subsidiary of the fund's management, or by an outside, independent organization? As a general rule, look for an objective outside opinion. Some funds will not spend the money for independent appraisals, which are probably the single, most expensive operating cost of funds that do. Still, it is important to know what someone else besides the fund itself thinks about its properties and its performance.

Also look at appraisal frequency.

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The timing of appraisals is very important. Whether you are going in or coming out of a fund, the investor wants the asset valuation to be the most recent possible. Some funds only appraise properties every three years; others do so as often as every six to 12 months.

Generally, closed-end funds do not update their appraisals on a regular basis, as open-end funds do. It is wise, therefore, to check to see if all investors are treated equally upon entering the fund. It is fair for early investors in a closed-end vehicle, whose funds immediately are used to purchase properties, to receive greater return than those coming in near the end. Early investors should be concerned about a fund's policy about this issue.

It is just as important, if not more so, to understand the valuation procedures of a fund's properties as it is to know the real estate track record, which, historically, has been roughly half cash flow and half unrealized appreciation. The valuation techniques will help you understand the mechanism used to determine unrealized appreciation and how it is accounted for on the books.

Fund size

Find out if the fund has a growth ceiling. Funds can grow to such a size as to become a complicated management problem. If the cash flow of a fund is 10 percent, for example, management can be faced with multi-million dollar reinvestment decisions on a regular basis. Acquiring properties at that rate can be a real problem. As a general rule, $500 million in assets is the maximum size for an effective commingled real estate fund. Anything larger and a fund could have a major reinvestment problem of the cash flow.

Management fees

Just as you pay management fees to your stockbroker, commingled funds also charge a fee. The range in the industry runs from .9 of 1 percent to 1.5 percent of the net asset value of the investor's share, with the norm being about 1.2 percent. Some funds offer a sliding fee schedule, where they start at 1.5 percent and go down to .75 percent when an individual investor reaches a certain dollar amount. As more and more entities enter this business, management fees may become more competitive.

Conclusion

Selecting the right real estate investment vehicle is a challenge for the trustees of a pension fund. Since real estate is a long-term investment, it is important to have confidence in the fund and regularly evaluate its performance. Some pension fund managers rely on outside pension fund consultants to analyze a particular fund both before investing and periodically thereafter. Some very reputable firms perform this service. If they are not already familiar with a particular fund, they will investigate it for you.

Even if you use a consulting firm, it is imperative for the pension fund manager to become acquainted with the commingled real estate fund's management. Their real estate expertise and investment strategy are crucial to the success of the fund. ☐

The most important thing to remember about real estate investments is this:

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Research

On pension funds and real estate

Each year Greenwich Research Associates measures the demand—present and prospective—for real estate investments. Charles Ellis, president of Greenwich Research, shares his analysis of the lastest data.

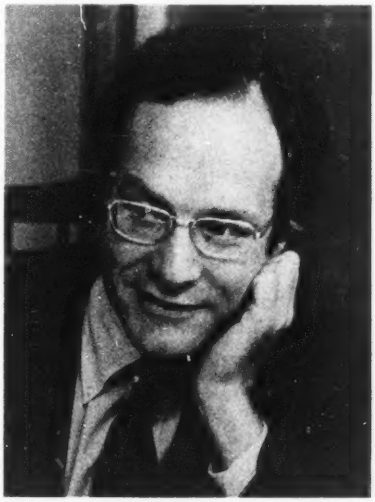
Real estate is Topic Number One in pension fund investment management these days and for several very good long-term reasons: returns are attractive, fundamental diversification is provided *vis-a-vis* stocks and bonds, and valuations are substantially more stable than the prices — particularly in recent years — of stocks and bonds.

Demand — both present and prospective — for real estate investments is measured each year by Greenwich Research Associates in over 1,000 personal interviews with plan sponsors. As shown in Table 1, 22 percent of the 1,800 largest corporate plan sponsors now invest in real estate equities and nearly two-thirds of these corporations plan to increase their real estate equity investments. Even more impressive, 28 percent of the companies plan to start investing in real estate during the next year or two.

For very large corporations (whose importance is indicated by the fact that the 100 largest plan sponsors represent more than half of the total plan assets of all corporate employee benefit funds), the demand is even stronger: 51 percent of the 100 largest industrials now invest in real estate equities; better than four out of five of these companies intend to increase their real estate investments; 30 percent of the companies — or 60 percent of those that do not yet invest in real estate equities — plan to start investing in real estate equities in the next year or two. Combining those who plan to increase their equity real estate investments with those who plan to start, our research shows a 72 percent total demand among the 100 largest industrials.

The high level of interest in getting started in real estate equity investments is largely a recent phenomenon — as shown in Table 2. Since our 1976 research, the number of corporate plan sponsors planning to start investing in real estate equities has *tripled* from 9 percent of the companies to 28 percent.

In 10 years of research on pension funds and on each of the other major corporate and institutional financial service markets, this is the most remarkable surge of demand we have seen.



Erich Hartmann

by **CHARLES D. ELLIS**
President
Greenwich Research Associates
Greenwich, Conn.

On the fixed-income side of real estate, as shown in Table 3 and 4, both the level and the rate of growth in demand for mortgages are considerably lower than the demand for real estate equities.

An important qualifier on the extraordinary *breadth* of demand for real estate investments is provided in Table 5, which shows that the *depth* of demand is still quite limited. Less than 2 percent of total employee benefit plan assets (1.6 percent of pension funds, 1.3 percent of profit-sharing plans, and only 0.3 percent of thrift plans) are now invested in real estate.

With the patterns of demand for real estate equity investments now established, let's take a more careful look at the driving forces behind the demand.

In three of the five years between 1975-79, long-term expected rates of return in large capitalization growth stocks — the perennial favorite investment medium of corporate pension funds — have, as shown in the table below, been modestly higher than the returns expected from real estate equities.

Expected Rates of Return

Year	Real Estate Equities	Large Growth Stocks	Rate of Return Spread
1975	8.9%	9.8%	(0.3)
1976	9.9%	9.7%	0.2
1977	9.4%	9.1%	0.3
1978	9.7%	10.1%	(0.4)
1979	10.2%	10.5%	(0.3)
1980	13.1%	12.8%	0.3

In our 1980 research, the long-term average *expected* rate of return on investments in real estate equities rose up and over the returns expected in growth stocks. So, the expected returns are clearly attractive to corporate plan sponsors, and the expected rate of return is the primary driving force behind the surging demand for real estate.

The second driving force behind the demand for real estate is the opportunity to diversify employee benefit plan assets — particularly with regard to the impact of inflation, which is so very different for real estate equities than for securities. (At the risk of oversimplifying, an increase in the expected rate of inflation *raises* the rate at which future dividends and interest are discounted and *lowers* the prices of stocks and bonds, whereas in equity real estate, the same increase in expected inflation *raises* the estimated rate at which rents will increase and *raises* the present valuation of properties.)

How Demand for Real Estate Equities Varies With Company Size and Plan Assets

	Use Service Now	Expect to Use More	Will Start Using	Total Future Demand
Fortune Rank				
001- 100	51%	42%	30%	72%
101- 200	37%	19%	28%	47%
201- 300	33%	23%	29%	52%
301- 400	18%	6%	39%	45%
401- 500	16%	15%	36%	51%
501- 600	14%	6%	26%	32%
601- 700	14%	9%	21%	30%
701- 800	14%	8%	22%	30%
801- 900	12%	6%	14%	20%
901-1,000	6%	2%	16%	18%
Total Industrials	24%	15%	27%	42%
Total Utilities	22%	17%	28%	45%
Large Utilities	25%	20%	39%	59%
Medium Utilities	20%	14%	22%	36%
Retail	20%	11%	34%	45%
Transportation	13%	10%	33%	43%
Employee Benefit Fund Assets				
Over $1 billion	57%	49%	22%	71%
$501-1,000 million	51%	36%	24%	60%
$251- 500 million	40%	25%	34%	59%
$201- 250 million	23%	14%	39%	53%
$151- 200 million	31%	18%	35%	53%
$101- 150 million	15%	11%	39%	50%
$ 76- 100 million	21%	12%	30%	42%
$ 51- 75 million	15%	10%	32%	42%
$ 41- 50 million	15%	12%	25%	37%
$ 31- 40 million	20%	13%	33%	46%
$ 21- 30 million	15%	9%	30%	39%
$ 16- 20 million	16%	9%	27%	36%
$ 11- 15 million	7%	5%	25%	30%
$ 5- 10 million	9%	4%	14%	18%
Under $5 million	5%	2%	11%	13%
Total Companies	22%	14%	28%	42%

Table 1

Source: Greenwich Research Associates

Another aspect of diversification through real estate is the degree of non-covariance in the year-to-year returns from real estate investments and from stocks and bonds. This diversification advantage enables an employee benefit fund to increase its equity exposure through real estate investments more — for a specified level in riskiness or variability in rate of return — than it could by adding more common stocks (where variations in return are dominated by changes in the overall stock market).

The third drive behind the demand for equity real estate investments is the extraordinary nominal stability in the valuations given real estate investments — particularly during the past several years and particularly in the most widely advertised pooled funds. Employee benefit plan sponsors do not like the kind of volatility in values experienced in both stocks and bonds during the past several years — particularly when an unexpected drop in current market values might require an unplanned increase in the annual contribution required to fund the plan.

The stability of the valuations of real estate investments — because they are based on the long-term investment *appraised value* rather than on a "spot" *market price* — is the least frequently discussed but may well be the greatest potential advantage of real estate investments.

The reason valuation stability may be so important is that it allows plan sponsors to make greater commitments to equity investments for a specified level of acceptable risk of change in portfolio valuation than could be made in more volatile common stocks without, as shown above, obliging sponsors to accept a lower rate of return.

The importance of this dimension can be understood readily by contemplating the significance of

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How Plans to Start Using Real Estate Equities Have Been Changing

	1976 Research	1977 Research	1978 Research	1979 Research	1980 Research	Four-Year Change
Fortune Rank						
001- 100	9%	14%	16%	34%	30%	21
101- 200	17%	12%	18%	25%	28%	11
201- 300	13%	14%	17%	23%	29%	16
301- 400	10%	15%	17%	24%	39%	29
401- 500	8%	10%	7%	29%	36%	28
501- 600	4%	7%	8%	17%	26%	22
601- 700	15%	3%	5%	14%	21%	6
701- 800	2%	9%	13%	14%	22%	20
801- 900	0%	8%	11%	13%	14%	14
901-1,000	4%	2%	10%	20%	16%	12
Utilities	13%	15%	10%	17%	28%	15
Retail	4%	11%	10%	23%	34%	30
Transportation	21%	10%	13%	19%	33%	12
Employee Benefit Fund Assets						
Over $500 million	13%	15%	19%	24%	23%	10
$251-500 million	12%	15%	18%	35%	34%	22
$101-250 million	12%	10%	17%	27%	38%	26
$ 51-100 million	17%	11%	12%	18%	31%	14
$ 31- 50 million	7%	7%	15%	22%	30%	23
$ 21- 30 million	9%	11%	13%	25%	30%	21
$ 16- 20 million	3%	4%	9%	9%	27%	24
$ 11- 15 million	7%	14%	5%	12%	25%	18
$ 5- 10 million	3%	4%	10%	18%	14%	11
Under $5 million	2%	5%	5%	10%	11%	9
Total Companies	9%	10%	12%	20%	28%	19

Table 2

Source: Greenwich Research Associates

these factors: 1) The typical employee benefit plan is (as shown in Table 5) less than 50 percent invested in equity investments. 2) The expected rate of return on real estate equities and growth stocks is 300 basis points higher than the rate of return expected on bonds. Hence, 3) for each shift of 10 percent of plan assets away from bonds to equity investments (in either growth stocks or real estate), the expected rate of return on the overall fund would be increased by 30 basis points (10 percent of assets at 300 basis points higher rate of return).

Is this kind of increased rate of return important? Yes. For example, very, very few pension funds achieve a rate of return that is 30 basis points better than the market average rate of return in their employee benefit plans, due to superior operating management of their invested assets. In this context, higher annual returns of 30 basis points a year are substantial. And if a larger shift in asset mix were made, the incremental annual return would be even more substantial.

How far should pension funds go

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How Demand for Real Estate Mortgages Varies With Company Size and Plan Assets

	Use Service Now	Expect to Use More	Will Start Using	Total Future Demand
Fortune Rank				
001- 100	31%	13%	8%	21%
101- 200	17%	3%	4%	7%
201- 300	13%	3%	8%	11%
301- 400	13%	0%	13%	13%
401- 500	8%	4%	11%	15%
501- 600	3%	1%	9%	10%
601- 700	5%	0%	5%	5%
701- 800	7%	3%	10%	13%
801- 900	2%	2%	6%	8%
901-1,000	6%	0%	2%	2%
Total Industrials	12%	3%	8%	11%
Total Utilities	14%	6%	15%	21%
Large Utilities	11%	7%	14%	21%
Medium Utilities	15%	5%	15%	20%
Retail	11%	2%	14%	16%
Transportation	3%	0%	18%	18%
Employee Benefit Fund Assets				
Over $1 billion	29%	8%	12%	20%
$501-1,000 million	24%	4%	11%	15%
$251- 500 million	17%	7%	8%	15%
$201- 250 million	14%	5%	5%	10%
$151- 200 million	6%	2%	10%	12%
$101- 150 million	6%	0%	11%	11%
$ 76- 100 million	11%	3%	8%	11%
$ 51- 75 million	10%	6%	9%	15%
$ 41- 50 million	10%	0%	8%	8%
$ 31- 40 million	12%	2%	20%	22%
$ 21- 30 million	7%	1%	15%	16%
$ 16- 20 million	9%	5%	5%	10%
$ 11- 15 million	7%	1%	14%	15%
$ 5- 10 million	7%	1%	4%	5%
Under $5 million	2%	0%	4%	4%
Total Companies	11%	3%	10%	13%

Table 3

Source: Greenwich Research Associates

in increasing their exposure to equities, whether stocks or real estate? One way to think through the answer to this central question is to look carefully at the difference between the pension *plan* and the pension *fund*. For the typical corporate plan sponsor, the pension plan's obligations or liabilities are 50 percent larger than the assets in the fund.

> *Relative to liquidity, pension funds are unique: they are very long-term investments and do not need liquidity.*

As a result, if the plan assets are one-half in equities and one-half in fixed-income investments — the normal situation in 1980 — the assets of the pension fund will be only one-third in equities and two-thirds in fixed-income "assets" of which half are bonds and half are the plan's unfunded past service obligations, which are roughly equivalent to an account receivable from a single corporation (the plan sponsor) at a fixed rate of return (the actuarial interest rate assumption, which is usually 6-8 percent).

Moving the pension *plan* to two-thirds in equities would mean investing the pension *fund* a full 100 percent in equities. If investing a pension *plan* two-thirds in equities is appropriate for a plan sponsor, then investment opportunities that facilitate increasing equity investments are highly desirable. Real estate appears to meet this need.

With so much interest in real estate equity investing for pension funds and such good strategic reasons in support of this interest, are there any important negatives that pension executives should consider?

Liquidity is the most frequently cited problem with real estate investments. They are difficult and costly to sell. However, relative to liquidity, pension funds are unique: they are very long-term investments and do not need liquidity. Most pension plans will not take any money out of the pension fund for at least 30 years because annual contributions will reliably exceed benefit payments and the fund will

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How Plans to Start Investing in Real Estate Mortgages Have Been Changing

	1977 Research	1978 Research	1979 Research	1980 Research	Three-Year Change
Fortune Rank					
001- 100	5%	11%	16%	8%	3
101- 200	4%	6%	11%	4%	0
201- 300	4%	10%	12%	8%	4
301- 400	8%	7%	10%	13%	5
401- 500	3%	5%	9%	11%	8
501- 600	4%	6%	8%	9%	5
601- 700	2%	4%	9%	5%	3
701- 800	2%	5%	11%	10%	8
801- 900	8%	0%	5%	6%	−2
901-1,000	2%	2%	14%	2%	0
Utilities	3%	8%	11%	15%	12
Retail	6%	13%	9%	14%	8
Transportation	0%	3%	6%	18%	18
Employee Benefit Fund Assets					
Over $500 million	8%	13%	16%	12%	4
$251-500 million	4%	12%	15%	8%	4
$101-250 million	6%	10%	12%	9%	3
$ 51-100 million	4%	4%	9%	9%	5
$ 31- 50 million	4%	9%	8%	15%	11
$ 21- 30 million	2%	8%	17%	15%	13
$ 16- 20 million	0%	4%	9%	5%	5
$ 11- 15 million	5%	4%	10%	14%	9
$ 5- 10 million	4%	4%	5%	4%	0
Under $5 million	4%	3%	7%	4%	0
Total Companies	4%	7%	10%	10%	6

Table 4

Source: Greenwich Research Associates

How Mean Asset Mix Varies With Type of Plan

Type of Investment	Pension Plan	Profit-Sharing Plan	Savings and Thrift Plan
Company stock	1.4%	16.8%	34.3%
Other common stock	42.8%	23.9%	12.8%
Total stocks	44.0%	40.3%	46.6%
Bonds	23.8%	16.4%	9.5%
Guaranteed investment contracts	7.1%	23.4%	32.2%
Insured plans	5.7%	0.7%	2.3%
Real estate	1.6%	1.3%	0.3%
Cash and equivalents	14.4%	14.2%	7.2%
Other assets	2.9%	2.6%	1.8%

Table 5

Source: Greenwich Research Associates

READY TO BUY

$1 to $20 million available for OFFICE BUILDINGS, INDUSTRIAL COMPLEXES, SHOPPING CENTERS located in ORANGE COUNTY, PALM SPRINGS, BAY AREA, PHOENIX, LAS VEGAS, ATLANTA. We purchase as principals, brokers are protected.

Send set-ups to:

Equitec Properties Company
P.O. Box 1109
Lafayette, CA 94549
(415) 283-8900

EQUITEC

continue virtually indefinitely so there is no need to add liquidity now in anticipation of plan termination.

Language is another difficulty. "Cash on cash," "net, net, net," and other terms so familiar to real estate executives are often unfamiliar to pension executives. This difficulty is rapidly disappearing as pension executives gain experience and familiarity with the terms and concepts of real estate investing.

The major problem with real estate investing for pensions appears to be timing. Is this really the right time to invest in real estate? The answer is: "It all depends." In part, it all depends on why real estate appears attractive to the particular plan sponsor. If the answer is, candidly, that returns earned in the past several years are the main reason for investing now, the chances are high that the results over the next several years will be disappointing. This leads directly to the other factor on which "it all depends."

How long the pension fund will sustain its investment in real estate is even more important in deciding whether the timing is right. For pension funds that will persist for many, many years with their real estate investment program and will not get shaken out by adverse interim experience, the long term will so greatly dominate the initial period that timing almost does not matter.

Timing can be made even less important by adopting the time-honored practice of dollar cost averaging — building up a real estate investment program over a period of several years — and sticking with it.

Asking when the pension fund might *stop* investing in real estate is the key test of when a fund should *start* investing in real estate. If the pension fund would stop soon, should short-term returns prove disappointing — particularly in relation to the exceptional returns in the past few years — then this is no time to start. On the other hand, if the fund is committed to real estate investing and will stay committed, then this may be as good a time as any. The final answer depends not so much on real estate as on the specific fund and plan sponsor. ☐

4th Annual Real Estate Portfolio Manager Directory

■ The following *Pension World* Real Estate Portfolio Manager Directory lists firms that provide real estate portfolio management services for pension funds. It is not an exhaustive list, but rather lists the firms that responded in full to *Pension World's* questionnaire and that fit the prescribed criteria: 1) only firms that indicated they currently manage real estate portfolios for pension fund clients are listed and 2) no company is included whose *total* assets under real estate portfolio management are less than $10 million.

During June, 1981, the *Pension World* questionnaire was mailed to 650 firms throughout the U.S. that provide some form of real estate services. The response rate was 21 percent, with 77 of those firms — including 44 from last year's list — meeting the criteria.

Questionnaires received indicate that the list of real estate portfolio managers continues to grow. Using the same criteria as last year, the 1981 *Pension World* Directory increased in size by 24 percent. Another 14 firms responded that they are in the process of instituting new funds or expanding their services to include pension fund clients for the first time and wish to be contacted in 1982.

The number of pension fund clients listed under real estate portfolio management by any one firm ranges from 1 to 3,400. The smallest pension fund portfolio listed is $1 million; the largest is more than $2.9 billion.

Name and address	Person to contact, phone	Total assets under real estate portfolio management (millions)	Number of pension fund real estate clients	Total pension fund real estate assets under portfolio management (millions)
ACKERMAN ADVISORY ASSOCIATES 3340 Peachtree Road Suite 111 Atlanta, GA 30026	Paul H. Saylor President 404/266-0800	$280	4	$280
AETNA LIFE & CASUALTY 151 Farmington Avenue Hartford, CT 06156	Thomas R. John Director 203/273-6390	Equity Real Estate Separate Account (RESA) — $530; Participating Mortgage Separate Account (PMSA) — $9	74	RESA — $530; PMSA — $9
AMERICAN PRINCIPALS CORP. The American Building 2262 Carmel Valley Road Del Mar, CA 92014	Gregory D. Fitzpatrick Vice President 714/481-3131	$4,000	100+	$1.6
AMERICAN SUNBELT PROPERTIES 501 Park Avenue North P.O. Box 2321 Winter Park, FL 32790	Donald M. Collier President 305/629-1085	$60	3	$10
AMINOFF & CO. 9601 Wilshire Boulevard #220 Beverly Hills, CA 90210	Gary A. Aminoff President 213/858-6700	$100	3	$26
THE BALCOR CO. 10024 Skokie Boulevard Skokie, IL 60077	Donald L. Fortunato Vice Chairman 312/677-2900	$1,000+	Approx. 3,400	$322+
BANK OF AMERICA 180 Montgomery Street P.O. Box 37026 San Francisco, CA 94137	Richard Clark Vice President/ Investment Real Estate 415/622-3103	Approx. $250	Approx. 250	Approx. $100
THE BOSTON CO. REAL ESTATE COUNSEL, INC. One Boston Place Boston, MA 02106	Robert A. Radloff President 617/722-7102	$210	2	$110
ALEX BROWN REALTY 135 East Baltimore Street Baltimore, MD 21202	Turner B. Smith President 301/727-1700	Approx. $150	1	Approx. $50
CALIFORNIA FEDERAL SAVINGS & LOAN ASSN. 5670 Wilshire Boulevard Los Angeles, CA 90036	David J. Reed Senior Vice President 213/932-4567	$6,000	46	$15
CAPITAL CONSULTANTS, INC. 2300 S.W. First Portland, OR 97201	David Nelsen Vice President James Crumpacker Assistant Vice President 503/241-1200	$111	33	$111
CAPITAL FINANCIAL REALTY CORP. 9703 South Dixie Highway Miami, FL 33156	Gerard E. Glennon President 305/666-4226	Approx. $10	Approx. 25	Approx. $2.5

Breakdown of assets into real estate holdings	Participation offered	Geographical diversification	Minimum investment	Return on investment (net of fee)	Fee
Ownership in income-producing property — $263 million; mortgages — $17 million	Commingled, closed-end fund, direct investment	National with emphasis on Sunbelt	$500,000	Averages minimum 12.5% per year	Varies according to client and fund
RESA: Income-producing property — 94%; convertible mortgages — 6%; PMSA: participating mortgages — 100%	Units of participation	RESA: National; PMSA: Currently West	$100,000	RESA annualized return: 18.7% (1 year ending 4/30/81); PMSA: not yet available (fund established 3/31/81)	RESA: .95% of net mean assets; PMSA: .70% of net mean assets
Income-producing property	High-yield first mortgages, free-and-clear commercial properties, equity placements	West and Southwest	$25,000	9-20%	Negotiated
Income-producing property	Private placement, joint venture	Midwest and Sunbelt	None	15.5%+	Negotiable
Income-producing property	Outright ownership, limited partnerships, joint ventures	National	$500,000	7-12%	Negotiated
Income-producing property — approx. $800 million; mortgage portfolio asset value — approx. $250 million; undeveloped land — 4,500 acres	Limited partnerships, participation in commingled group trust	National	Limited partnerships — varies; group trust — $1 million	Equity partnerships — varies; Balcor Pension Investors mortgage fund — approx. 15% cash and deferred interest plus equity participation	Group trust — 1¼% of net assets; Balcor Pension Investors II — 7½% of cash flow
Income-producing property, including convertible mortgages	Separate accounts, commingled fund	National	$50,000 initial for fund	Varies	Varies according to type of account; available upon request
Income-producing property	Direct portfolio ownership; special situation participation	National	$10 million initial commitment for private portfolio clients	Depends on client policy	Negotiated
Income-producing property	Equity ownership, although sometimes structured as debt plus kicker	Emphasis on South and Southwest	$5 million	8-11% cash on cash	1½-2% or negotiated
Mortgages — $10 million; real estate — $5 million	90/10 participation in mortgage pass-through	California	$1 million	Varies	Varies
Income-producing property — 22%; mortgages — 78%	Units in open-end fund (hybird), mortgages	National with emphasis on West Coast	$1 million	9½-10% cash on cash	Varies
Income-producing property	50-100% equity positions, mortgages	Continental U.S.	$500,000	8-10%	Negotiable

Name and address	Person to contact, phone	Total assets under real estate portfolio management (millions)	Number of pension fund real estate clients	Total pension fund real estate assets under portfolio management (millions)
CHEMICAL MORTGAGE CO. 101 East Town Street Columbus, OH 43215	Daniel R. Goss Executive Vice President Hobart M. Munsell Senior Vice President 614/460-3000	$3,500+	7	$1,400+
CITIBANK, N.A. 153 East 53rd Street New York, NY 10043	John A. Weisz Vice President 212/559-9949	$2,500	61	$1,500
CITIZENS & SOUTHERN NATIONAL BANK P.O. Box 4114 Atlanta, GA 30302	T. Marion Slaton Assistant Vice President 404/581-4870	$200	195	$87
COLDWELL BANKER CAPITAL MANAGEMENT SERVICES 533 Fremont Avenue Los Angeles, CA 90071	Reid G. Samuelson Vice President/Director of Investments 213/613-3597	$450	25	$450
CONNECTICUT MUTUAL LIFE INSURANCE CO. 140 Garden Street Hartford, CT 06115	Norman Hausmann Director/Pension Division 203/727-6500	$2,473	3	$23
CONSOLIDATED CAPITAL INSTITUTIONAL ADVISORS, INC. 1900 Powell Street Emeryville, CA 94608	Richard G. W[illegible]lack President 415/652-7171	$1,200	Approx. 250	Approx. $50
CONTINENTAL ILLINOIS NATIONAL BANK 30 North LaSalle Street Chicago, IL 60693	Terry W. Thompson Vice President 312/828-8460	$400	80	$50
CROCKER REAL ESTATE INVESTMENT GROUP 44 Montgomery Street Suite 2110 San Francisco, CA 94104	John H. Dracott Vice President 415/477-7162	$110+ (12/31/80)	200+ (12/31/80)	$100+ (12/31/80)
RICHARD ELLIS, INC. 200 East Randolph Drive Suite 654 Chicago, IL 60601	Bradley A. Olsen Vice President 312/861-1105	$450	Direct investment — 2; (U.K.) pooled fund — 33	$400
THE EQUITABLE LIFE ASSURANCE SOCIETY OF THE U.S. 1285 Avenue of the Americas New York, NY 10019	Donald E. Conover Account Executive 212/554-4952	Equity Real Estate Account (SA 8) — $1,600	SA 8 — 245	SA 8 — $1,643 (5/31/81)
EQUITEC FINANCIAL GROUP 3732 Mt. Diablo Boulevard Suite 360 Lafayette, CA 94549	Kenneth E. Nitzberg President 415/283-8900	$400+	1	$50

Breakdown of assets into real estate holdings	Participation offered	Geographical diversification	Minimum investment	Return on investment (net of fee)	Fee
Residential — $1.5 billion; income-producing property — $1.6 billion; FHA-insured projects — $350 million; HUD rehabilitation loans — $18 million	Loan servicing in 38 states	Continental U.S.	Residential — $1 million; income properties — $3 million	Negotiable	Varies from 5 to 40 points depending on loan type, loan size, and services rendered
For pension accounts only: mortgages — $856 million; equities — $649 million	Equity, participating first mortgages, real estate income funds, separate accounts	National	$5 million	16-20%	Available upon request
Income-producing property — 17%; mortgages — 77%; undeveloped land — 6%	Mortgages, joint ventures, equity participation, direct ownership	Southeast	$1,000 (pooled fund)	Varies by fund	1% of real estate managed
Income-producing property	Commingled participation, managed accounts	National	$1 million	15-25%, depending on fund	Acquisition fee — 1%; management fee based on project cost — 1%; incentive fee — 20% of cash flow after cumulative 10% return for investors
Income-producing property — 58% (remainder in short-term securities)	Units in open-end fund	Midwest, Southwest, and West	$100,000	Income — 13.6% (no appreciation realized to date)	1% of net assets
Income-producing property — 80%; mortgages — 20%	Direct placement of equity, pooled fund of secured profit participating notes on income real estate	Sunbelt and major metropolitan areas	Varies with fund — $5,000-$100,000	Varies	Varies with fund — 1% of assets to total incentive fee
Income-producing property —28 million; participating mortgages — $22 million (market value)	Units in fund, direct ownership	National	Fund — nominal; direct investment — $2 million	Depends on program	Fund — 1%; direct investment — dependent on size
Income-producing property	Units in open-end fund, separate accounts	National with emphasis on West and Southwest	None in open-end fund	Open-end fund — 13.64% (12/80)	Open-end fund — 1.2% p.a.
Income-producing property — 96%; mortgages — 4%	Outright ownership, joint venture	National	$20 million initially	6-9% initial yield; 12-15% internal rate of return	Acquisition — 1-1½% of gross purchase price; portfolio management — ½% of asset value per annum; property management — 2-5% of gross income per annum; development supervision — ½% of project cost or purchase price
SA 8 as of 3/31/81: industrial — 14.2%; office — 29.2%; hotel — 8.8%; retail — 45.8%; research and development — 2.0%	Units in open-end fund (SA 8)	National	$100,000	11.5% in 1980; 3.5% in first quarter 1981 (non-annualized)	SA 8: First $2 million — 1.60%; next $3 million — 1.45%; next $5 million — 1.30%; next $15 million — 1.15%; next $25 million — .80%; excess over $50 million — .45%
Income-producing commercial property	Limited partnerships, closed-end and commingled fund	Arizona, California, Georgia, Colorado, Nevada, Texas, and New Mexico	$150,000	Approx. 30% to date	Commingled fund — 2¼% of net appraised value of the portfolio, including property management expense

Name and address	Person to contact, phone	Total assets under real estate portfolio management (millions)	Number of pension fund real estate clients	Total pension fund real estate assets under portfolio management (millions)
EQUITY INVESTORS, INC. 29001 Cedar Road Suite 325 Cleveland, OH 44124	Dan K. Silverberg President 216-442-4820	$85	10	$15
EQUITY PROPERTIES CORP. 25th Floor First American Center Nashville, TN 37238	James S. F. Boyd President 615/242-4417	$56	50	$40
FIRST EQUITIES CORP. 6201 Powers Ferry Road Suite 500 Atlanta, GA 30339	Arthur Jay Hayden Vice President 404/952-1500	$525	120	$525
FIRST FEDERAL SAVINGS 3003 North Central Room 406 Phoenix, AZ 85012	Anthony D. Falconieri Senior Vice President 602/248-3599	$1,980.0	10	$135
FIRST NATIONAL BANK IN DALLAS Box 83794 Dallas, TX 75283	Nathan O. Finke Vice President/Trust 214/744-8323	$333	38	$153
FIRST NATIONAL BANK OF ATLANTA P.O. Box 4148 Atlanta, GA 30302	David S. Graham Vice President 404/588-5104	$110	26	$30
THE FIRST NATIONAL BANK OF BOSTON 100 Federal Street Boston, MA 02110	Peter F. Tague, III Vice President 617/434-4560	Approx. $300	275	Approx. $300
THE FIRST NATIONAL BANK OF CHICAGO One First National Plaza Chicago, IL 60670	Larry G. Ginnegaw Vice President/Trust Department, 1-16-9 312/732-4151	$615	98	$317.7 (5/31/81)
FIRST NATIONAL BANK OF FT. WORTH P.O. Box 2260 Ft. Worth, TX 76113	Gerald Hartman, Jr. Vice President and Trust Officer 817/390-6996	$190	30	$40
GAVEY & CO., INC. 80 Park Avenue New York, NY 10016	James E. Gavey President 212/867-0130	$41	3	$1.2
GREAT-WEST LIFE ASSURANCE CO. 60 Osborne Street North Winnipeg, Man. R3C 3A5	Gary Coopland Director/Pension Investments 204/946-9342	$1,841[1]	65	$50.2
GRUBB & ELLIS PROPERTY SERVICES CO. 1333 Broadway Oakland, CA 94612	John French President 415-839-9600	$141.0	10	None[2]
JOHN HANCOCK MUTUAL LIFE INSURANCE CO. P.O. Box 111 Boston, MA 02117	Michael B. O'Toole Second Vice President 617/421-6168	$7,416 (12/31/80)	51 (12/31/80)	$353 (12/31/80)

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[1] Includes assets managed by real estate development companies in which Great-West Life has interest.
[2] Pension fund clients are under portfolio management, but real estate investment has not yet been made.

Breakdown of assets into real estate holdings	Participation offered	Geographical diversification	Minimum investment	Return on investment (net of fee)	Fee
Investment real estate — 85%; joint venture — 15%	Partnerships only	Estate of Mississippi plus Texas	$750,000	Varies by partnership	Negotiated
Undeveloped land — 20%; income-producing property — 80%	Direct ownership	Southeast	$250,000	8%	Negotiated
Income-producing property	Units in closed-end, equity oriented limited partnerships	Southeast and West	$1 million	6-7% real above inflation (1975-80)	1% of the asset base
Not reported	90% interest in mortgage loan pools of residential or commercial loans	Arizona and California	$1 million	Market rate — usually 50 basis points over GNMA yields in cash market	Negotiated servicing fee
Office buildings — 40%; shopping centers — 30%; warehouses — 30%	Pooled fund, individual property acquisition	Sunbelt	$50,000	10.53% for 1980	1%
Income-producing property, mortgages, undeveloped land, timberland	Units in pooled timberland fund	Southeast	Timberland fund — $250,000	5-11% real above inflation	1.2% (.25% cash portion)
Real estate — $140 million; individual — $93 million; mortgages — $85 million	Units in open-end pooled fund	National	None	Approx. 13%	1% of assets of participating trust
Real Estate Fund F: income-producing property including less than 10% convertible mortgages	Deposits in open-end fund	National	$500,000	Performance is not reported net of fees; 15.4% total return (12/31/81)	1.2% of real estate
Mortgages — 25%; real estate holdings — 75%	Individual ownership, pooled funds, joint ventures	National with emphasis on Texas	Open — criteria varies by participation	Open	Varies by participation — fee schedule furnished upon request
Income-producing residential multi-family apartments	Limited partnerships	National	$25,000-$100,000	20-50% annually including appreciation	5-15% of distributions, including profits
Retail — 30%; office — 30%; industrial — 30%; miscellaneous — 10%	Open-end pooled fund	Canada	Not available; subject to investment management fee	12.5% on income basis only; capital appreciation not yet available (fund initiated 6/30/80)	1.26%
Land — 3%; income-producing property — 80%; mortgages — 17%	Negotiable	California, Nevada, Texas, Southeast, and New York	$2 million	15-20% (estimated)	Approx. 1% asset management fee
Income-producing property — 97.6%; mortgages — 2.4% (12/31/80)	Open-end commingled fund	National	$250,000	14.0% annualized time-weighted rate of return, including interest and realized and unrealized capital gains and losses, assuming reinvestment of all investment return (12/28/76-12/31/80)	1%

Name and address	Person to contact, phone	Total assets under real estate portfolio management (millions)	Number of pension fund real estate clients	Total pension fund real estate assets under portfolio management (millions)
INVESTMENT COUNSEL CO. 56 East Pine Street Orlando, FL 32801	Byron W. Giltz Vice President 305/841-6241	$250	4	$20
JMB INSTITUTIONAL REALTY 875 North Michigan Avenue Suite 3900 Chicago, IL 60611	John S. Lillard President 312/440-5042	$2,000	24	JMB group trust — $100
JONES LANG WOOTTON 499 Park Avenue New York, NY 10022	R. Gary Barth Partner 212/688-8181	$130	3	$85
THOMAS L. KARSTEN ASSOCIATES 10960 Wilshire Boulevard Los Angeles, CA 90024	A. Redmond Doms, Jr. Executive Vice President John M. Lundsten Senior Vice President 213/473-1128	Direct — $110[3]	Direct — 2[3]	Direct — $110[3]
LANDAUER ASSOCIATES, INC. 200 Park Avenue New York, NY 10166	R. Malcolm Bauer Vice President 212/687-2323	$350	3	$350
LANDSING 431 Burgess Drive Menlo Park, CA 94025	Ronald D. Roberts Vice President/Marketing 415/323-8313 800/227-8228	$200	7	$20
LaSALLE STREET FUND LaSalle Partners, Inc. 208 South LaSalle Street Chicago, IL 60604	Kenneth M. Campia President 312/782-5800	$400	Approx. 15	$300
LEHNDORFF MANAGEMENT LTD. 3737 Noble Suite 200 Dallas, TX 75204	M. Thomas Lardner Executive Vice President and General Manager 214/670-0400	$1,200 in North America	1	$10
LIEBERMAN COMPANIES 554 Middle Neck Road Great, Neck, NY 11023	Bruce R. Lieberman President 516/466-6565	$30	2	$2
LOEB PARTNERS REALTY 521 Fifth Avenue New York, NY 10175	Gary L. Naughton Vice President 212/883-0371	$250	4	$100
THE MADSEN CORP. 502 Atlas Avenue Madison, WI 53707	James G. Martell Director 608/221-3432	$150	3	$5
JOHN McMAHAN ASSOCIATES, INC. 201 California Street #400 San Francisco, CA 94111	Joseph Azrack Vice President 415/433-7770	$120	1	$25
MERRILL LYNCH HUBBARD Two Broadway New York, NY 10004	James T. Foran Vice President 212/908-8443	$500	9	$400
METROPOLITAN LIFE INSURANCE CO. One Madison Avenue New York, NY 10010	Peter Braun Assistant Vice President 212/578-2937	$14,000	11	$140

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[3] Pooled fund to be offered 10/81.

Breakdown of assets into real estate holdings	Participation offered	Geographical diversification	Minimum investment	Return on investment (net of fee)	Fee
Mortgages — approx. 20%; land — 50%; income-producing property — 30%	Negotiable, depending on particular investment	Southeast with emphasis on Florida	$500,000-$5 million range	12%+	1.25% annually of equity invested in real estate
Income-producing property	Equity interest in income-producing properties held in JMB group trust	National with emphasis on Sunbelt	$1 million from new customers; $150,000 from existing customers	9.8% for JMB group trust (1980)	1¼% of market value of all real estate assets as determined quarterly
Office buildings — 80%; shopping centers — 20%	Direct investment	National	$3 million	Varies	Depends upon services provided
Income-producing property; mortgages	Varies	National with emphasis on West	$1.5 million	Varies	Direct investment — negotiable
Income-producing property	Direct investment[3]	National	$5 million	Varies	Varies[3]
Income-producing real estate, garden apartments, shopping centers, office/industrial buildings	Closed-end equity trust, participating debt, fee ownership	West	Negotiable	Varies	Negotiable
Income-producing property	Shares in commingled fund	Major metropolitan areas throughout U.S.	$250,000	N/A	1¼% of net real estate assets
Income-producing property — 85%; undeveloped land — 10%; mortgages — 5%	Varies	National	$2.5 million	Varies	Varies
Income-producing property, mortgages	Flexible to suit needs of investor	Southeast and Southwest	$500,000	Varies	Negotiable
Income-producing property — 90%; undeveloped land — 10%	100% equity ownership	Continental U.S.	$1 million	Varies	Negotiable
Income-producing property — 98%; mortgages — 2%	Varies	Midwest	$500,000	Varies	None
Income-producing property — 70%; joint venture development of income properties — 20%; undeveloped land — 10%	Separate account	National with emphasis on rapidly growing metropolitan areas	$20 million initially	6% or greater real return above inflation	Negotiable
Income-producing property — 40%; mortgages — 60%	Direct portfolio ownership	National	Debt portfolios — $5 million; equity portfolios — $10 million	Depends on client policy	Negotiated
100% equity participation	Open-end commingled fund	National	$100,000	14.3% (3 years ended 3/31/81)	Investment management fee of 1%, plus normal contract charges

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[3] Pooled fund to be offered 10/81.

Name and address	Person to contact, phone	Total assets under real estate portfolio management (millions)	Number of pension fund real estate clients	Total pension fund real estate assets under portfolio management (millions)
MUTUAL OF NEW YORK 1740 Broadway (25-3) New York, NY 10019	Stephen R. Cunningham Assistant Director of Real Estate Investment 212/708-2027	$6.6	3	$6.6
NORTH AMERICAN LIFE ASSURANCE CO. 105 Adelaide Street West Toronto, Ont. M4W 3G9	Leo S. Frank Director/Pension Investment Services 416/362-6011	$315	13	$15
NORTH CAROLINA NATIONAL BANK One NCNB Plaza Charlotte, NC 28255	Robert L. Reynolds Vice President 704/374-8379	$200	328	$140
PAINE WEBBER PROPERTIES, INC. 100 Federal Street Boston, MA 02101	S. Douglas Weil President 617/423-8150	$50	500	$5
THE PECKHAM BOSTON CO. Four Longfellow Place Boston, MA 02114	John M. Peckham, III President 617/523-4440	$30	4	$15
PHOENIX MUTUAL LIFE INSURANCE CO. One American Row Hartford, CT 06115	Joel C. Cohan Vice President 203/278-1212	$124	Negotiations underway with 3 clients	$12.5 (7/15/81)[4]
PREFERRED FINANCIAL CORP. 18321 Ventura Boulevard Tarzana, CA 91356	Peter Saltman Director/Special Industries Group 213/881-9032	$155	82	$4+
PROPERTY CAPITAL ADVISORS, INC. 200 Clarendon Street Boston, MA 02116	John A. Cervieri, Jr. President 617/536-8600	$300+	40+	$200+
THE PRUDENTIAL INSURANCE CO. OF AMERICA Prudential Plaza Newark, NJ 07107	R. H. Dunphy Vice President 201/877-7884	$20,113 (3/31/81)	343	$2,911.9
PRUDENTIAL MORTGAGE BANKERS & INVESTMENT CORP. 2067 Mt. Diablo Boulevard Walnut Creek, CA 94596	William Kleisath President 415/933-6346	$24	34	$19
REPUBLIC NATIONAL BANK OF DALLAS One Dallas Centre P.O. Box 241 Dallas, TX 75221	David J. Pittman Vice President and Trust Officer 214/653-6506	$205	17	$41

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[4] Assets committed from Phoenix Mutual's general pension account.

Breakdown of assets into real estate holdings	Participation offered	Geographical diversification	Minimum investment	Return on investment (net of fee)	Fee
Income-producing property	Units in Pooled Account #7	National	$100,000	Not yet available (fund instituted 5/14/81)	1% of net assets, charged quarterly
Income-producing property	Units in pooled account	Canada	$250,000	$10.85 on 5/81 (fund started 9/30/80 @ 10.00)	.78% surcharge over and above regular investment management fees
Income-producing commercial and industrial — 70%; development land — 10-20% (remainder in cash equivalents)	Commingled fund, individually structured account	Southeast	None for commingled fund	20.1% (1980)	1.2% of assets annually
Income-producing property	Units in limited partnerships	National	$5,000	Varies	Prospectus available from Paine Webber offices
Income-producing property	Depends on client requirements	National with emphasis on Northeast	$1 million	Varies dependent on risk	Negotiable
Income-producing property: offices — 51%; office/warehouse — 14%; shopping centers — 20%; apartments — 4%; hotels — 10%	Units in commingled equity separate account (RESA)	National	$100,000	No record history to date on RESA[5]	1%
Income-producing property — $130 million; mortgages — $5 million; undeveloped land — $20 million	Limited partnerships, joint venture	California, Nevada, Texas, Arizona, and North Carolina	Varies — as low as $5,000	In excess of 45% (all properties and programs since 1973)	Varies
Income-producing property	Varies	Continental U.S.	$1 million +	Varies	Negotiable
PRISA: properties and net partnership interests in properties — $2,252.7 million; mortgage loans — $22.5 million (3/31/81); PRISA II: properties and net partnership interests in properties — $120.3 million; mortgage loans — $11 million (3/31/81) — remainder of assets in both accounts in cash and short-term investments)	Contributions to PRISA and PRISA II	PRISA — National; PRISA II — N/A	PRISA: $50,000 on valuation date with annual contributions of $200,000; PRISA II: $500,000	PRISA: 3.4% for quarter ended 3/31/81; 16.8% for year ended 3/31/81; PRISA II: 3.4% for quarter ended 3/31/81; 14.5% for period from 7/18/81 (inception) to 3/31/81	Investment management fee (both accounts) — annual rate of 1¼% of net assets other than short-term investments and cash
Second deeds of trust, 1-5 year term, on single-family residences	100% ownership, monthly payments, in fully managed 1-5 year term notes and deeds of trust	California	$100,000	18%+	None
Income-producing property	Units in open-end commingled fund	Southwest and Southeast	Individual plan must have capacity to grow to $1.0 million participation in real estate equity fund in 3-year period	Varies with specific investment mode and method of calculation; details available upon request	Maximum of 1.2% of market value

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[5] Representative real estate return at Phoenix 1976-80 is 19.8%.

Name and address	Person to contact, phone	Total assets under real estate portfolio management (millions)	Number of pension fund real estate clients	Total pension fund real estate assets under portfolio management (millions)
RREEF 650 California Street Suite 1800 San Francisco, CA 94108	Paul Sack Real Estate Principal 415/781-3300	$720	24	$710
SAMOTH REAL ESTATE CORP., LTD. 801-345 Quebec Street Victoria, BC V8V 1W4	Richard D. B. Talbot President 604/388-5123	$200	10	$50
SAN ANTONIO SAVINGS P.O. Box 1810 San Antonio, TX 78296	Ray C. Wilson Senior Vice President 512/340-7481	$75	2	None[2]
SAVAGE/FOGARTY COS., INC. 699 Prince Street Alexandria, VA 22314	Jeffrey H. Riddel Vice President 703/549-1160	Approx. $150	5	$70
SCUDDER REALTY ADVISORS, INC. 333 South Hope Street 37th Floor Los Angeles, CA 90071	David R. Bryant Senior Vice President 213/628-1144	$300+	26	$300+
SMITH, BARNEY REAL ESTATE CORP. 1345 Avenue of the Americas New York, NY 10105	Thomas J. Gochberg President 212/399-6135	$305	36	$55
SUN BANK, N.A. P.O. Box 3631 Orlando, FL 32802	David R. Pierce Trust Real Estate Officer 305/237-4689	Approx. $50.0	60	Approx. $3.0
RALPH C. SUTRO CO. 4900 Wilshire Boulevard Los Angeles, CA 90010	H. Lawrence Hull Vice President Dorothy J. Wilson Vice President 213/937-4000	$2,403.6	32	$323
THIRD NATIONAL BANK Trust Real Estate Department Nashville, TN 37244	Campbell Brown Vice President & Trust Real Estate Officer Geoffrey C. Mitchell Assistant Vice President & Trust Real Estate Officer 615/748-4610	$65	100	$10
TOWNE PROPERTIES LTD. 2261 Francis Lane Cincinnati, OH 45206	Marvin Rosenberg Partner 513/861-3375	$75	4	$2
THE TRAVELERS INSURANCE CO. One Tower Square Hartford, CT 06115	Thomas E. Keating Vice President 203/277-7777	$7,000	Separate Account "R" — 58	Separate Account "R" — $268

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[2] Pension fund clients are under portfolio management, but real estate investment has not yet been made.

Breakdown of assets into real estate holdings	Participation offered	Geographical diversification	Minimum investment	Return on investment (net of fee)	Fee
Income-producing property	Units in closed-end commingled funds	National	$15 million over 3 years	25-33% (1980)	1/10 of 1% per month; 1.2% per annum
Income-producing property — $150 million; mortgages and undeveloped land — $50 million	Negotiable	Western states and provinces	$1 million	Negotiable	Negotiable
Mortgages — $35 million; apartments — $20 million; residential land — $10 million; commercial land — $10 million	Varies	Texas	$1 million	Varies	Negotiable
Income-producing property, land	Varies according to client's needs	Emphasis on Greater Washington, DC, area	Varies	Varies	Varies
Mortgages on income-producing property — 52%; mortgages on residential property — 26%; equity in income-producing property — 22%	Individual client portfolios	West Coast	$50 million over 5 years	Varies	0.2-0.5% per annum depending on investment type plus origination fees
For real estate fund only: income-producing property — 94%; first mortgage (as result of sale of property) — 6%	Units of participation in commingled fund	Midwest, East, and Southeast	$250,000 initially	27.2% for 1980 (14.8% in cash)	Based on capital contributions and cash distributions to unitholders
Income-producing property	Shares in fund	Florida and Southeast	$1,000	N/A — new fund	Annual fee of .0075
Mortgages on income-producing property — $130 million; mortgages on residential properties — $193 million	Short-term debt instruments, intermediate and long-term debt, and/or equity instruments	National	$1 million	Varies	Negotiable
Income-producing property	Units in pooled fund	Southeast and Southwest	$1,000 (1 unit)	11% with 3% appreciation	1% of total value of fund
Income-producing property	Partnerships, mortgages	Midwest, Florida, and Colorado	$10,000	14%+	Negotiated
Both equity and debt commitments in offices, office/warehouses, shopping centers, agricultural, apartments	Separate Account "R" — equity (properties), debt (mortgages), or balanced (discretionary mix of equity and debt investments)	National	$100,000	Equity — 14.38%; mortgage — 6.78%; balanced — 11.51% (12 months ending 5/31/81, net of all expenses)	Investment management fee — 1% annually based on net assets

Name and address	Person to contact, phone	Total assets under real estate portfolio management (millions)	Number of pension fund real estate clients	Total pension fund real estate assets under portfolio management (millions)
TRAWEEK INVESTMENT CO., INC. 330 Washington Street Suite 200 Marina del Rey, CA 90291	Frank E. Carroll Executive Vice President 213/822-9157	$139.6	200	$131.6
WACHOVIA BANK & TRUST CO., N.A. P.O. Box 3099 Winston-Salem, NC 27102	Nicholas L. Verano Vice President Deborah L. Tate Trust Officer 919/748-5906	$411	300	$251 (4/30/81)
WALLACE ASSOCIATES 1518 Walker Bank Boulevard Second South & Main Street Salt Lake City, UT 84111	Hugh S. West Vice President & Marketing Director 801/355-1791	$25	10	$1
WELLS FARGO INVESTMENT ADVISORS 475 Sansome Street, #975 San Francisco, CA 94111	Thomas W. Richardson, Jr. Vice President 415/396-5094	$660	Approx. 100	$150
YORK ASSOCIATES, INC. Suite 300 4801 Massachusetts Avenue, NW Washington, DC 20016	John C. York, Jr. President 202/362-1400	$800+	1	$20+

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Breakdown of assets into real estate holdings	Participation offered	Geographical diversification	Minimum investment	Return on investment (net of fee)	Fee
Income-producing property	Joint venture, limited partnerships	California	$2,000	22.7% average internal rate of return	Front end — 5% of capital subscribed
Rental property — $72.0 million; land — $9.2 million; Atlantic land stock — $2.1 million; notes and mortgages — $1.9 million (4/81 — remainder in cash and demand notes committed for construction)	Equity participation	Chicago, Houston, Phoenix, Kansas City, San Diego, Atlanta, Los Angeles, San Francisco, Denver, Orlando	$100,000	17.9% (1980)	Annual base fee — $300; real estate management fee — 1-1/8%; cash — ¼%
Income-producing property — 40%; mortgages — 10%; undeveloped land — 50%	Individual ownership, joint venture, limited partnerships	Utah	$5,000	20% (10-year average)	Services expensed or 1.25% maximum
Income-producing property — 95%; land — 5%	Units in commingled fund, separate accounts	West and South	$100,000	16.5% (1980)	1.25% of net assets
Income-producing property	Equity in income-producing property	National	$5 million	9.5%	Negotiable

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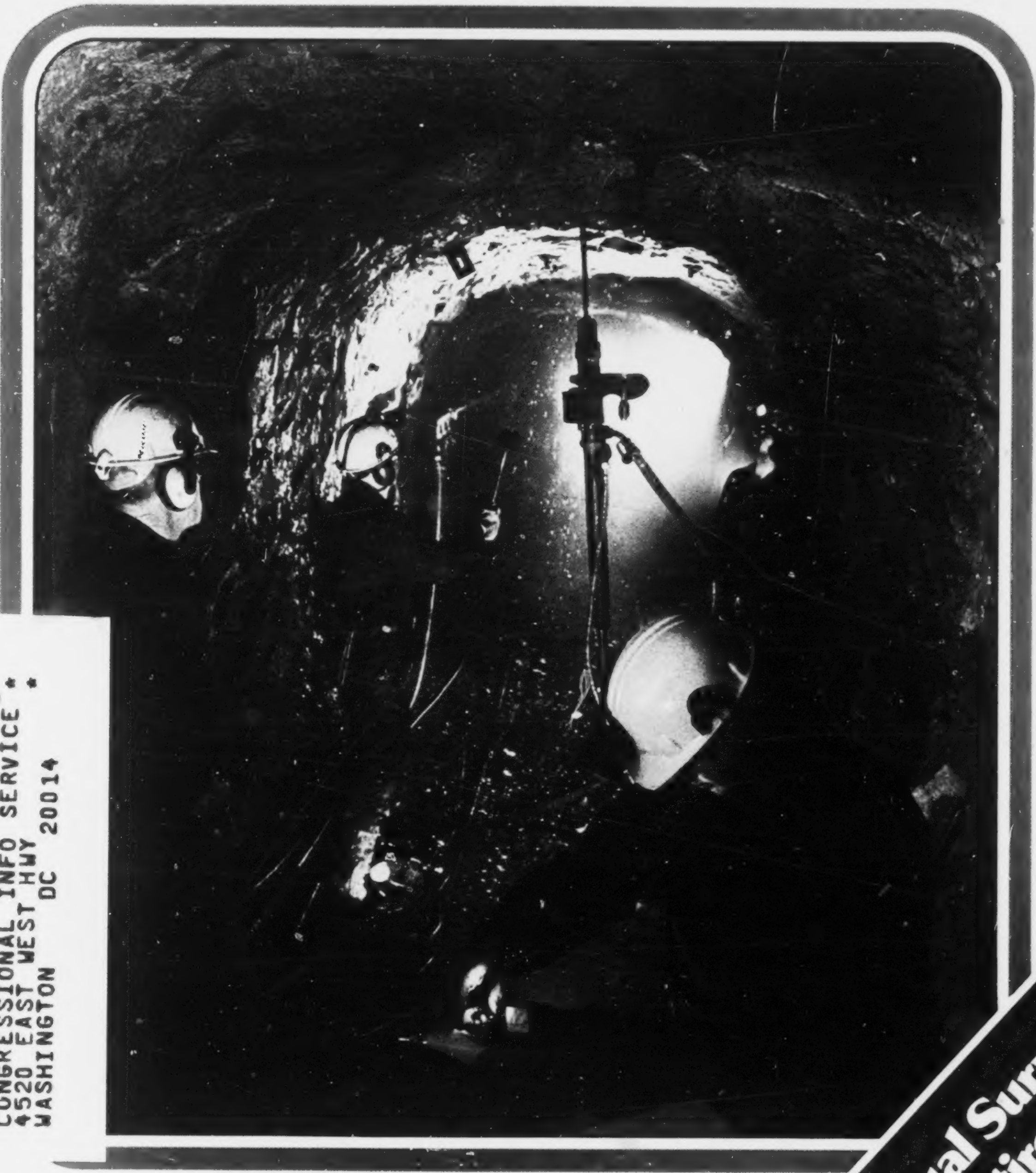
Value Rules INCO Fund



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State Funds Investing in Real Estate

Flexible Benefits in Action

8th Annual Survey of State Retirement Systems

Pension World

October 1981
Volume 17 Number 10

The Magazine for Plan Sponsors and Investment Managers / A Publication of Communication Channels, Inc.

Features

INCO's value-oriented investment philosophy by Ronald Derven — 12
The world's leading producer of nickel is embarking on an innovative structure to manage its nearly $1 billion employee benefit funds while continuing a highly successful investment approach.

Public pension funds: major source of capital? by Leslie Ellen Wohlman — 16
The in-house investment managers of 10 of the country's largest state retirement systems talk candidly about real estate — how they utilize it now and what prospects they see for its future in their portfolios.

Flexible Benefits — Part II: Planning and implementing flexible benefit plans by Ronald Derven — 23
Until recently, few firms opted for "flex." Now more than 70 firms are testing flexible systems. Several pioneers relate what might be a wave of the future.

Social accountability in total return by Eugene Burroughs — 29
Social/political investing has many titles, according to the director of the investment department for the International Brotherhood of Teamsters; but whatever its name, this is a subject to follow closely.

New tax laws mean more money and more choices by Everett T. Allen, Jr. — 35
ERTA — The Economic Recovery Tax Act of 1981 — touches vast and diverse segments of American business. A benefits consultant discusses key issues that employers should consider as the impact of the legislation is felt.

Urban Institute's report on state and local pensions by Thomas J. Cavanaugh and Richard C. Murphy — 39
The Future of State and Local Pensions is a 579-page report focusing on the present status of public systems. However, state and local officials should proceed with caution before using the report to justify change — for reasons these actuaries carefully document.

What Every Fiduciary Should Know: The impact of the new tax legislation in compensation and employee benefit plans by Jeffrey D. Mamorsky and Leo Brown — 45
In analyzing the key amendments that will affect employee benefit plans, *Pension World*'s legal column addresses such issues as constructive receipt, incentive stock options, collectibles, and ESOP revisions.

Pension World Basics: Defined contribution plan participant recordkeeping by Michael Epstein — 50
To comply with Federal regulations, individual accounts must be maintained for each plan participant. Efficient recordkeeping is essential, and a member of Citibank's employee benefit funds department points out what to look for in sophistication and flexibility when selecting or updating a system.

8th Annual Survey of State Retirement Systems — 53
Pension World's exclusive analysis of 90 public retirement systems show how state portfolios are structured, where the money is, and who's managing it.

Departments

Guest Editorial 4
International Pension World 6
Washington Newsletter 8
Pension News 66
Pension People 70
Meetings & Conventions 72
Pension Resources 73

Pension World

***Cover:* Sound pressure levels from a prototype muffler are recorded at INCO's Thompson Mine in Thompson, Manitoba. INCO also carefully evaluates available investment data to run its pension fund. How its system operates begins on page 12.**

BPA

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Real Estate Highlight

Public pension funds: major source of capital?

Public pension funds are beginning to expand more vigorously into real estate. To gather up-to-date and accurate information on real estate investment by these funds, personal interviews were conducted in June and July, 1981, with the in-house investment advisors of 10 of the largest state funds in the country, representing $73 billion in assets.

The investment advisors interviewed were: Melvin W. Petersen, chief of investments, Public Employees Retirement Systems of California; William A. Amerman, director of investments, and Robert Peck, administrator/Mortgage Servicing Division, Michigan State Employees Retirement Systems; Madelon Talley, director/investments and cash management, and Edward Majewski, director of real estate investments, New York State Common Retirement Fund; Lowell Blom, mortgage officer, and Edward Reno, investment officer, New York State Teachers Retirement System; Christopher S. Moore, deputy treasurer/director of Investment & Banking Division, North Carolina Retirement Systems; Robert A. McLaughlin, assistant director/investment officer, Public Employees Retirement System of Ohio; Frances Crimbly, assistant secretary, Pennsylvania State Employees Retirement Fund; Andy Sheffler, executive director, Pennsylvania Public School Employees Retirement System; Clark Manning, investment officer, and Joe Perrone, assistant investment officer, Teacher Retirement System of Texas; and Kenneth Codlin, executive director, and Robert Zobel, investment director, State of Wisconsin Investment Board.

Today's asset diversification

As shown in Chart I, the state funds have invested the majority of their holdings — ranging from 65 to 88 percent of their total assets — in fixed-income securities. The largest percentage of the fixed-income securities is in corporate bonds, followed by Federal government and agency bonds, and government-insured mortgages.

Conventional and net lease credit mortgages presently constitute a nominal amount of most of the funds' assets. However, the three largest funds, Public Employees Retirement Systems of California (PERS/California) and the two New York funds, have invested significant amounts in mortgages. The New York State Teachers Fund has 10 percent in conventional mortgages and 4 percent in credit mortgages, the New York State Common Retirement Fund, 15 percent in conventional mortgages, and PERS/California has 3 percent of its $14.7 billion fund in credit mortgages.

Equity investments presently consist almost exclusively of common stock holdings. Currently, none of these funds has significant holdings in real estate equity investments, primarily because of statutory restrictions.

Tomorrow's investments

Chart II outlines the projected asset diversification in 1985 of seven of these state funds. Three major changes are predicted.

1. *A significant increase in real estate holdings, with an emphasis on mortgages.* As an illustration, the Public Employees System of Ohio, the Pennsylvania State Employees Fund, and the Texas Teachers Fund presently have no conventional mortgages in their portfolios. By 1985, these funds plan to invest 5 to 10 percent of their total assets in conventional mortgages.

by **LESLIE ELLEN WOHLMAN**
Regional Vice President
Integrated Resources, Inc.
New York, N.Y.

In addition, most of the states plan to increase significantly their investments in net lease credit mortgages. Michigan, with none of these investments presently, due to statutory limitations, plans to have $160 million of these mortgages by 1985. Investments in net lease credit mortgages are based on both the credit worthiness of the tenant and the intrinsic value of the real estate. Since these vehicles share the characteristics of a corporate bond and mortgage security, they will enable pension fund managers to utilize their financial acumen gained in the stock and bond markets.

Although none of the surveyed state funds currently has equity investments in real estate, many of them, including PERS/California, Michigan, the New York State Common Fund, the Ohio Employees Fund, and the Pennsylvania State Employees Fund, plan to in the future. PERS/California intends to have 5 to 10 percent of its total 1985 projected assets placed in equity real estate investments — a projected $2.5 billion.

2. *A significant decrease in corporate bond holdings.* Due to poor performance of bond portfolios in recent years and continuing inflation, most of the state funds plan to decrease substantially their corporate bond holdings. The Public Employees System of Ohio, for example, intends to decrease its percentage of corporate bonds from 62.4 percent of current total assets to 38 percent in 1985, and Michigan plans to reduce its holdings from 42.3 to 25 percent over the same period.

Chart I Asset Diversification — Today

	Calif.	Mich.	N.Y. Common	N.Y. Teachers	North Carolina	Ohio	Penn. School	Penn. State	Texas	Wisc.
	Percentage of Total Assets — 1981									
Fixed Income										
Federal Government and Agency Bonds	10.0%	16.6%	34.9%	20.0%	15.3%	4.2%	7.0%	4.1%	16.0%	14%
Corporate Bonds	38.9	42.3	16.8	25.0	62.4	58.7	46.0	50.1	27.0	40.0
Short-Term Investments (Notes, Bills, C.D.'s, etc.)	2.5	11.2	3.7	6.0	1.8	11.7	8.0	8.1	2.0	10.0
Government-Insured Mortgages	19.2	14.5	4.0	4.0	8.3	3.8	18.0	18.5	25.0	4
Conventional Mortgages	0	2.2	15.0	10.0	—	—	—	—	1.0	4
Net Lease Credit Mortgages	3.0	—	.6	—[1]	—	—	—	.4	1.0	2
Other	3.3	—	.7	0	—	—	—	—	—	—
Fixed Income as % of Total Assets	76.9	86.8	75.7	65.0	87.8	78.4	79.0	81.2	72.0	74
Equity										
Common Stocks	23.1	13.2	24.3	33.0	12.2	21.6	21.0	18.3	28.0	26
Real Estate	—	—	—	—	—	—	—	.5	—	—
Other	—	—	—	2.0	—	—	—	—	—	—
Equity as % of Total Assets	23.1	13.2	24.3	35.0	12.2	21.6	21.0	18.8	28.0	26
Total Assets (billions)	$14.7	$ 5.8	$14.5	$ 8.7	$ 5.0	$ 5.1	$ 3.1	$ 4.5	$ 6.1	$ 4.8

[1] Net lease credit mortgages are included in Corporate Bonds.

Chart II Asset Diversification — Tomorrow

	Calif.	Michigan	N.Y. Common	Ohio	Penn. State	Texas	Wisconsin
	Percentage of Total Assets — Projected 1985[1]						
Fixed Income							
Federal Government and Agency Bonds	6%	3%	20%	5%	5-10%	15%	10%
Corporate Bonds	30-33	26	18	38	30-32	20	40
Short-Term Investments (Notes, Bills, C.D.'s, etc.)	2.1	10	2	2	0-5	2	5
Government-Insured Mortgages	19.1	10	3	5	13	25	5
Conventional Mortgages	1-2	4	15	5	5	5-10	3
Net Lease Credit Mortgages	4-5	2	—	—[2]	5	3	2
Other	3.0	—	5	—	—	—	—
Fixed Income as % of Total Assets	65-70	60	63	55	60-70	70-75	65
Equity							
Common Stocks	25	38	35	35	25-35	25-30	30
Real Estate	5-10	2	2	10	5	—	5
Other	—	—	—	—	—	—	—
Equity as % of Total Assets	30-35	40	37	45	30-40	25-30	35
Total Assets (billions)	$25	$8.2	$25.1	$9.4	$5	$10	$8

[1] Information was not available for the New York State Teachers Retirement System, the North Carolina Retirement Systems, and the Pennsylvania Public School Employees Retirement System.
[2] Included in Conventional Mortgages.

3. *An increase in common stock holdings.* Although many states have statutes that restrict the percentage of common stock holdings to 25 percent of their total portfolios, many state legislatures can be expected to enact laws that will change this limitation. The Public Employees Retirement System of Ohio plans to increase its common stock holdings from 12.2 percent of its current portfolio to 35 percent of its 1985 base, and Michigan intends to increase its stock investments from 13.2 percent to 38 percent in 1985.

Moving into real estate

Why are these funds, representing billions, planning to make substantial investments in real estate?

Frances Crimbly of the Pennsylvania State Employees System describes the rationale:

> Until 1979, the Pennsylvania State Employees Fund's participation in real estate was limited to government insured residential mortgages and FHA project loans. Mortgage investment was viewed simply as an alternative to bond investment. Our legislative authority for equity real estate is

> quite limited, and up to 1979, we were able to acquire sufficient product in the government insured market to satisfy our perceived needs.
>
> This philosophy began to change in 1979, and at the beginning of 1981, the Board adopted an asset allocation plan that calls for a steadily increasing investment, both in dollar and percentage terms, to both mortgage and equity investment in real estate. Current targets for 1985 are 5 percent equity real estate, 5 percent mortgage-backed securities, 14 percent residential mortgages, and 11 percent commercial mortgages — for a total of 35 percent of assets. This very significant shift in asset allocation was due, in part, to the emergence of new vehicles in the real estate market. But the attraction for real estate investing was strengthened by the emergence of a fairly liquid market for mortgage-backed securities, by the wider availability of debt instruments with equity "kickers," and by the greater flexibility of term and call provisions.

Many of the state retirement fund investment advisors responded with skepticism to new mortgage vehicles, including the SAM (Shared Appreciation Mortgage), GPAM (Graduated Payment Adjustable Mortgage), and RRM (Renegotiable Rate Mortgage).

Clark Manning of Texas: "We have not as yet seen proposals attractive enough to cause us to vary from the fixed-rate mortgage."

Robert McLaughlin of Ohio: "It does not make sense to give up rate today for tomorrow's future promise. The problem is that you are giving up current cash income today for a promised future appreciation. Considering the time value of money, that appreciation has to be considerable to account for that initial lower cash flow during the early years of operation. Therefore, an investor might be better off locking in a secure, fixed-rate mortgage rather than a future promise that might only be 'pie in the sky.' "

Some of the larger funds are actively seeking investments whereby they can share in the increased cash flow from a building.

Kenneth Codlin of Wisconsin: "We have the advantage of being long-term lenders and can benefit from opportunities in the marketplace. We strategically operate in a long-term mode and should be careful about shortening terms when rates are at historical highs."

On the other hand, some of the larger funds are actively seeking investments whereby they can share in the increased cash flow from a building. Both Ed Majewski of the New York State Common Fund and Lowell Blom of the New York State Teachers Fund have investments that feature fixed minimum interest rates with "kicker" participation in a percentage of the buildings' revenues. They believe this type of investment offers an inflationary hedge by sharing in the increased cash flow from the building.

PERS/California, another example, has recently extended a $70 million loan for a Disneyland hotel. In addition to the coupon rate of 14.5 percent, the system is to receive 12 percent of gross room rentals in excess of $23 million. The borrower has guaranteed a minimum internal rate of return of 16 percent.

However, it was indicated that sometimes these "kickers" end up as cosmetic dollars, thereby creating possible litigation problems.

Net lease credit mortgages

Most of the state funds interviewed plan to increase their investments in net lease credit mortgages. Mel Petersen of California has invested in these mortgages for many years. In his opinion, these investments offer three major advantages:

1. *High quality and security.* They provide not only the assignment of rents from a major credit tenant, but also the collateral of the real estate as additional security. For example, in the early 1970's California had extended a loan on a W. T. Grant store located in San Diego. When W. T. Grant went bankrupt, the landlord was able to lease the space at a higher rent to a major West Coast retailer. California's net lease credit investment was thereby totally protected by the intrinsic value of the real estate. If the fund had invested in a W. T. Grant public debenture, the bankruptcy would have relegated it to the position of a general creditor, getting back only a small percentage of its original investment.

2. *Refunding protection.* Typically, a minimum 10-year, and as long as 15-year, refunding protection is obtained in a net lease credit mortgage; whereas, most public utility and industrial issues offer no more than respectively, a five- and 10-year refunding protection. When rates decline, this increased call protection may be very valuable.

3. *Higher yield.* A higher coupon can be obtained in a private placement as opposed to a public debenture. The difference in payment frequency, i.e., monthly vs. semi-

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annually, substantially increases the effective yield, especially at current rate levels.

Equity investing

Most of these 10 state funds plan to commit only a small percentage of their total real estate investments to equity positions as opposed to mortgages (see Chart II). The rationale, conservatively stated, is that there is no promise the golden decade of real estate in the 70's will be repeated in the 80's, 90's, and thereafter. Says Robert McLaughlin of Ohio, "Why is real estate so popular today? Is it history or future? We feel that it is a result of history. Overall, financial assets (stocks and bonds) over the next five years will likely yield a better return than tangible assets."

Future value will only be the amount that the next buyer is willing to pay. The real estate market has indeed experienced periodic slumps, such as the collapse of the real estate investment trusts, (REIT's) a decade ago. New York City real estate prices, for example, plummeted in the mid-1970's for reasons that included overbuilding and the city's financial crisis. Because such downward price movements are always possible, those who mistrust the recent real estate boom are reluctant to commit substantial dollars to equity positions.

Statutory changes

State pension funds have historically had extremely restrictive investment policies, which resulted in the virtual allocation of funds by legislation. New York State's list of investment rules, for example, is 103 pages long. The rules prohibit public pension fund managers from buying stocks that are sold over the counter or that have missed paying a dividend in the last five years. New York Governor High Carey has proposed replacing the cumbersome guidelines with the "prudent man" test that is common in the private investment community.

Many states have recently proposed new legislation that, if enacted, will substantially broaden their real estate investment powers. Ohio's recently adopted proposal LSC 114-743, typical of those being considered by many of the other states, reads as follows:

> At present all the retirement system laws authorize their board to invest in "productive" real estate in Ohio; under the bill, a board may invest in any type of real estate anywhere in the United States. Also at present, no more than 12 percent of the system's funds may be invested in such property; under the bill, as much as 25 percent may be invested in it. Moreover, the board's investment in real estate may take any form, for example, joint ventures or limited partnerships. However, if unimproved real estate is acquired, it must "be subject to a development plan."
>
> The bill authorizes a board to develop real estate it owns by spending money on the demolition of existing structures; grading and landscaping; constructing new structures; modifying existing structures, fixtures, and equipment; and related personal property. It also authorizes the board to manage the property itself or to contract with a management firm with expertise in

Many states have proposed legislation to broaden their real estate investment powers.

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  85,000 Sq. Ft. Office/Service Center
  1st MORTGAGE FINANCING: $3,000,000
- **EQUITY FINANCING—GRAND PRAIRIE, TEXAS**
  Forum Business Park
  114,000 Sq. Ft. Warehouse
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Regional concentration

When asked about future commitment to regional concentration, William Amerman of Michigan gave a typical response, reporting that the systems "will opt for in-state investment where risk return criteria are equal to other opportunities. Geographic diversification will not be limited by regional boundaries. Generally, we will be interested in growth areas (SMSA's and economic stability)."

Preference to investing within the fund's own state is exemplified by the PERS/California portfolio, which has 49.7 percent of its total loans in California — representing over $1.5 billion in May, 1981. The majority of these investments are in GNMA single family and FHA-VA loans.

Social investing

"Social investing" has become a popular buzz word in the pension fund industry. Although not clearly defined, the term implies the consideration of public interest goals when making investment decisions. Some of the advisors interviewed are actively developing programs to invest in pools of home loans in their states, clearly a social investment.

An example of a new investment program in residential home loans is the recently organized North Carolina Mortgage Investment Corporation (NCMIC). According to Chris Moore of the North Carolina System, NCMIC's purpose will be to assist that state's mortgage loan industry by providing an additional outlet for the secondary sale of home mortgages. NCMIC will purchase residential mortgage loans from mortgage originators within North Carolina, package the mortgages as either a collateralized debt issue or pass-through certificates, and sell the securities in both private and public offerings to third-party investors, one of whom may be the state of North Carolina pension fund.

Investment decision-making

Three major challenges will confront pension managers who will be making real estate investment decisions.

1. *How should the fund develop investment acumen for real estate?* Most pension fund managers acquired their knowledge of investment in the securities markets. As they enter the commercial real estate world, they will have to develop additional skills. Buying a property is more like buying a business than purchasing a portfolio investment.

Some of the 10 state funds interviewed may use outside advisors to make recommendations. However, the advisors will not manage their money, i.e., the funds will not invest in the separate accounts of insurance companies. The philosophy of maintaining the fund's own fiduciary responsibility by making "prudent" decisions for each investment in real estate, as opposed to permitting an outside manager to invest large sums of money in a diversified portfolio at his sole discretion, was shared by most of the fund managers interviewed. Mel Petersen, PERS/California, described it as a legal responsibility: *Delegatus Non-Potest Delegare* — the fund cannot delegate unto others the discretionary functions and investment decision-making that have been delegated unto itself.

2. *How does one measure real estate investment performance?* There are no adequate indices or measures of performance in commerical real estate. Since property is not homogeneous, the existing inventory cannot be priced on a day-to-day basis, and it cannot be monitored by research analysts in the same way that common stocks can.

3. *How does one deal with the socio-political pressures in making real estate investment decisions?* Since public pension funds represent pools of money from state employees, an important political question evolves — How much weight should be given to furthering the social welfare of a state through investment policy or decision?

Conclusion

The investment officers of these 10 large state funds indicated that they believe public funds generally will be a major source of real estate capital in the decades ahead. Many of the states will be enacting new legislation that will substantially enable them to commit "prudently" billions of dollars to both mortgage and equity real estate investments. They are hopeful that these real estate investments will prove to be a true inflationary hedge.

These enormous sums of money can have a positive impact on the future growth and development of the real estate industry. Real estate professionals who bring investment opportunities to these growing public funds should keep in mind the cardinal rule of Michigan's William Amerman: "In order for a deal to be good for anyone, it has to be good for *all* parties." ☐

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Analysis

Urban Institute's report on state and local pensions

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State and local government pension plans have been subject to considerable study over the last decade. One might even say they have been overstudied. This plethora of studies stems from a number of concerns. For example, should public plans be subject to the standards of ERISA? How well are they funded?

Perhaps the most comprehensive of these studies is the *Report of the House Pension Task Force,* which was published in 1978. That study, though providing much useful information, is clearly biased toward subjecting public plans to at least some ERISA standards.

Recently, the Urban Institute issued another study of state and local government plans. Entitled *The Future of State and Local Pensions,* this 579-page report focuses primarily on the *current* status of 100 large state and local government plans. In addition, it projects the funding status of the plans as a group. The study covers much of the same ground as the House Pension Task Force report but for a smaller group of plans.

Overview

The Federal Department of Housing and Urban Development and other Federal agencies commissioned the Urban Institute report to assist Federal policymakers in their consideration of the following:

- whether state and local plans provide adequate benefits;
- whether ERISA funding standards should be applied to public plans;
- what standards, if any, should be imposed upon the investment management activities of state and local plans;
- whether all state and local employees should be required to join the Social Security system;
- what impact pension costs will have on education finance and the appropriate Federal response in education programs; and
- what impact pension costs, with and without Federal legislative action, will have on the finances of state and local governments and, thus, the ability of those governments to deal with people and places in distress.

As noted above, the report is based on a sample of 100 plans — the 35 largest state and local plans and another 65 plans drawn at random from the universe of public plans with 1,000 or more members. Thus, the findings of this report, if valid, apply only to the larger public plans.

The report focuses on four major issues concerning state and local government plans: 1) reporting and disclosure, 2) benefit levels and pension plan design, 3) investment policy, and 4) pension costs and funding.

Reporting and disclosure

Reporting and disclosure for most state and local government plans is inadequate, according to the report. To remedy this supposed deficiency, a series of recommendations is proposed.

- Each plan should report asset targets (100 percent funding target) using its assumptions and funding method, unless the funding method does not produce an explicit asset target.
- Plans should report Financial Accounting Standards Board (FASB) Statement No. 35, plan termination, and plan continuation (see below) liabilities with each actuarial valuation. In addition, the unfunded liability and related information using an entry age normal funding method should be reported.
- The key economic assumptions used to determine the unfunded liabilities should be indicated and best estimates identified. Some information on the sensitivity of the unfunded liabilities to changes in economic assumptions should be provided.
- Market values of assets at the beginning and end of plan years should be disclosed by type of assets, along with information on purchases, sales, redemptions, and yields. In order to minimize potential misuse of this information, portfolio performance should be compared with standard indices and should be compared for various periods of time (e.g., most recent year, most recent five years, most recent 10 years).

Most of the recommended disclosure seems excessive. In particular, the recommended disclosure of unfunded liability in actuarial reports goes far beyond what is necessary for enlightened comparison of plans. In fact, the report asks for considerably more than the FASB requires.

To disclose four separate unfunded liabilities, perhaps using several sets of economic and demographic assumptions, would do more to obscure the funding status of the plan than it would to clarify it. Furthermore, the extra cost and effort involved is not minimal, despite the report's claim that modern computer technology has made it very simple. In fact, the extra reporting would be costly, especially for the actuarial firms that do not

Table 1 Average Pre-Retirement Disposable Income Replacement Rates for Workers Retiring at Age 65 With 30 Years' Service

Type of Plan	Final Salary $10,000	Final Salary $20,000
General Member — state administered	116%	101%
General Member — locally administered	122	111
Teacher	97	86
All Plans (100, including police and fire plans not listed above)	109	96

Source: *The Future of State and Local Pensions*, p. 1/29.

Table 2 Methods of Reflecting Inflation in Plan Provisions (1980)

Method	Number of Plans[1]
Full Indexing to CPI	2
Partial, Uncapped Indexing to CPI[2]	3
Full Indexing to Wages of Rank Last Held	1
Indexed With a Cap of:	
2% or less[3]	12
2-3%[3]	26
4-5%	8
Over 5%	1
No Provision for Inflation[4]	59
Total	112

[1] Includes 100 basic plans and 12 separate tiers.
[2] Increase equals 60 percent of the CPI increase.
[3] Includes six plans with automatic COLA tied to original benefit.
[4] Includes one state-administered plan with an option for localities to provide an automatic COLA provision. Few have exercised this option.

Source: *The Future of State and Local Pensions*, p. 2/8.

Table 3 Use of *Ad Hoc* Increases (1974-80)

	Number of Plans[1] Granted Increases	No *Ad Hoc* Increases	Total
Plans With no Provision for Cost of Living	50	8	58
Plans Indexed With a Cap	22	13	35
Plans With Fully or Partially Indexed Cost-of-Living Provisions	—	6	6
New Tiers Indexed With a Cap	—	12	12
	72	39	111

[1] Based on 99 plans for which information about *ad hoc* increases was available.

Source: *The Future of State and Local Pensions*, p. 2/13.

have access to modern computer technology.

Benefit levels and plan design

In the benefit and design section, the Urban Institute study concentrates on four main areas.

Benefit adequacy. The House Pension Task Force report supported concerns about potentially excessive public plan benefits under some circumstances, at least for the employee who remains until age 65. The Urban League report appears to add weight to this conclusion — at least for the 100-plan sample. Table 1 shows, on a weighted average basis, pre-retirement disposable income replacement rates for employees retiring at age 65 with 30 years of service. (Pre-retirement disposable income is defined as gross income less taxes.) While the weighted average replacement rates as reported are high, we question the result for teacher plans. Our experience would not support this relatively low result, and the report gives no justification for it.

There is considerable variation in replacement rates among the plans studied. The rates for employees age 65 with 30 years of service and a gross income of $10,000 range from 149 to 52 percent. Also, the replacement rates, on a weighted average basis, for employees covered by Social Security are higher than the rates for those not covered by Social Security.

Replacement rates among the 100 plans are generally lower for disability retirement, though some of the plans in the study have disability provisions that in combination with Social Security provide more than 100 percent of pre-retirement disposable income for employees with 10 years of service when they become disabled.

However, according to the study, the magnitude of these replacement rates is not enough to determine the adequacy of the benefits they reflect. Instead, the report maintains that "benefit adequacy cannot be understood without looking both at benefits at the time of retirement and some years after retirement."

Impact of inflation. This leads naturally into a discussion of the impact of inflation on retirement benefits and inflation protection after retirement. The report points out that without cost-of-living increases for retirees, the purchasing power of a more than adequate benefit can drop off, especially in an inflationary environment.

The analysis in this section seems to be rather superficial. No attempt is made to discuss problems with using the Consumer Price Index (CPI) as an inflation measure or the difficulties of devising a more appropriate inflation measure for retirees. Creative new financing methods to provide inflation protection, which are in use by some employers, are not mentioned.

Tables 2 and 3, which are taken from the report, are of some interest. Not surprisingly, very few plans index benefits to the full percentage increase in the CPI, but some have at least provided capped automatic increases. Many have provided *ad hoc* increases.

Social Security. The report indicates that "integration" of retirement benefits in state and local government plans is much less common than in the private sector. Only 23 of the 100 plans are integrated in the sense that retirement benefits were essentially reduced by Social Security benefits. Lack of integration contributes to the high weighted average replacement rates in Table 1.

There has been a leveling in the number of state and local government plans pulling out of Social Security, according to the report. Nothing is mentioned about the fact that Congress is considering legislation this year that would prevent state and local governments and nonprofit organizations from pulling out of Social Security.

The report does not take a position on whether universal Social Security coverage should be mandated for state and local government employees.

Trends and issues in plan design. The study says that no single pattern characterizes plan changes in the state and local sector. More plans liberalized benefits than reduced them, but some government plans — particularly those of cities in financial trouble — have substantially reduced benefits for new employees.

One trend of particular interest is the changes in employee contribution rates, which are summarized in Table 4. This table indicates a definite increase in employee contribution rates between 1974 and 1980.

The report notes that several big systems have been integrated with Social Security and says, "We are likely to see more integration in the future as Social Security costs and benefits increase." Perhaps there will be more integration in the future to reduce plan costs. However, initial Social Security benefits are more likely to decrease in the future as Congress moves to make the Social Security system more financially sound.

Investment policy

Two main areas are considered in this section — the desirability of investing some state and local government pension plan assets for social purposes and the investment performance of these funds as compared with other institutional investors.

Social investing. The report concludes that "legislative bodies should resist the temptation, which will increase, as plan assets increase, to direct pension funds toward investments with higher risk and/or lower return to promote social policies." Thus, the report makes a ringing denouncement of social investing.

However, the horse may already be out of the barn. Several states and cities have already moved to allow their pension plans to invest in mortgages in their local areas, in at least one case at a lower-than-market rate. Another example in point is California, which is considering major changes in the investment policy of its funds that could lead to social investing.

Table 4 Changes in Employee Contribution Rates (1974-80)

	General	Police/Fire	Teachers	Total
100 Plan Sample Contribution Rates				
Increased	28	2	4	34
Decreased	4	0	1	5
No change	36	6	14	56
No data	2	1	4	7
Total	70[1]	9	23	102
New Tiers Rates Compared to Basic Sample				
Increased	4	0	2	6
Decreased	3	1	3	7
No change	2	2	0	4
Total	9	3	5	17
Noncontributory[2] Systems				
1974	5	0	3	8
1980	7	0	5	12

[1] Includes two plans where rates were raised for employees covered by Social Security but remained unchanged for employees not covered by Social Security. These are entered twice.

[2] Includes new tiers.

Source: *The Future of State and Local Pensions*, p. 17/18.

Table 5 Impact of Economic Assumptions on Employer Cost of Representative Plans

Assumptions		Employer Cost as a Percentage of Payroll — Type of Plan		
Interest Rate	Salary Increase	General	Police & Fire	Teacher
7%	6%	14%	26%	16%
11	7	6	14	6

Source: *The Future of State and Local pensions*, p. 6/3.

Investment performance. The report concludes: "During the last decade, public pension plan portfolios have performed comparably with other large institutional funds. The detailed analysis of performance records in this report shows no systematic underperformance of public plans, either in total or for different classes of assets, such as long-term bonds or stock. Public plans do operate under significantly greater investment restrictions than private plans, but these do not seem to have significantly impaired plan investment performance during the 1970's." This conclusion appears to be based on long-run historical nominal returns as opposed to real inflation-adjusted returns.

Pension costs and funding

Much of this section is a primer on funding. Very few conclusions are reached, and some of the conclusions, as noted below, seem questionable.

Advance funding. The report concludes that state and local government plans should be advance funded rather than funded on a pay-as-you-go basis.

The following points are raised in support of advance funding:

- increased benefit security for members,
- a tendency to level costs as a percentage of active payroll,
- better budgeting practices and more efficient government decision-making,
- cost smoothing over generations of taxpayers,
- lower total costs than pay-as-you-go because of asset accumulation,
- better accountability, and
- reduced costs of municipal debts.

The report says that only 10 of

the 100 plans covered in the basic sample of the study do not follow a general policy of advance funding pensions for newly hired employees. Most of these plans are in the state of Massachusetts. Some of the 10 are considering or moving toward advance funding.

Assumptions. The report quite properly notes that economic assumptions — particularly assumed interest rates and salary scales — have a substantial effect on contribution levels. However, this section makes at least three statements that are debatable.

- The report says that the actuary brings no particular expertise to the selection of economic assumptions. While other professionals and the plan sponsor can add much to the selection of these assumptions, the actuary brings a unique understanding of the long-term nature of the pension obligation and its effect on the selection of economic assumptions.
- The report notes, "Not all actuaries even make individual 'best estimate' assumptions for interest rates and salary increases, figuring (incorrectly) that errors will cancel out." No evidence is given in support of this statement. There are, in fact, good reasons for not using "best estimate" assumptions, though a consistent relationship between interest rate and salary scale must be maintained.
- Table 5 is used in the report to illustrate the impact of economic assumptions on employer pension cost for a representative plan. This comparison is misleading because the relationship between the interest rate and salary scale is not maintained.

The report says Table 5 "shows vividly that the employer's cost of typical plans can be dropped sharply by using an assumption about returns on pension fund investments of 11 percent, a rate well below returns on long-term bonds when this report was written, rather than the 7 percent that is assumed in baseline forecasts in this study even if the salary increase factor is also assumed to be higher. The employer contribution is less than half as much on this set of assumptions as it is using the baseline assumptions."

However, costs cannot, in practice, be dropped so sharply. In the first place, this comparison is misleading because the relationship between the interest rate and salary scale is not maintained. Furthermore, an 11 percent interest assumption is much too high for most plans. Those we are involved with generally are earning current total rates of return of 7 to 9 percent.

Plan continuation liability. Actuaries should routinely report plan continuation liability using "best estimate" assumptions as a test of the funded status of the plan, according to the report. The so-called plan continuation liability is poorly defined in the report. This liability is an attempt to measure an ongoing plan's obligations using the projected unit credit funding method with salary proration. In our view, there is no compelling reason to report this liability.

Cost-of-living increases. The report expresses concern over the fact that *ad hoc* and automatic cost-of-living pension increases for retirees are not normally advance funded in the public sector. Only 22 of the 53 plans that provided completely or partially automatic COL increases reflected the costs in their actuarially determined contribution to the pension plan, according to the study. The report warns, "A jurisdiction which grants cost-of-living increases without advance funding will be building a legacy of future cost increase to pay for these benefits."

While it is true that there is no legal obligation to continue granting *ad hoc* increases, once a pattern has been established of granting them each year, they are looked at by retired participants as guarantees. At that point, it is difficult to discontinue them. Therefore, all cost-of-living increases should be advance funded if possible.

Projections. A number of projections, to the year 2024, are made of the funding status of the plans in the sample. Forty-four years is a long projection period. The conclusions must be taken with a grain of salt.

In particular, the report's major finding based on the projections is open to question. The report concludes, "For the majority of public plans, advance funding will make it possible to trim pension contributions as a percent of payroll, if benefit levels are held constant and if only the COLA's required by plan provisions are granted. Under our hypothesized economic environment (a long-term inflation rate of 5 percent, investment returns of 7 percent, and salary increases of 6 percent) the employer costs of state and local pensions would drop substantially from 12.7 percent of payroll currently to 8.6 percent of payroll in 2024. To a significant degree this drop results from the liquidation of unfunded liabilities by those jurisdictions that are currently on a schedule for amortizing such liabilities."

A drop in the contribution-to-payroll ratio of this magnitude is highly improbable, however, since reductions in this ratio would generate pressures to increase benefits or grant cost-of-living increases.

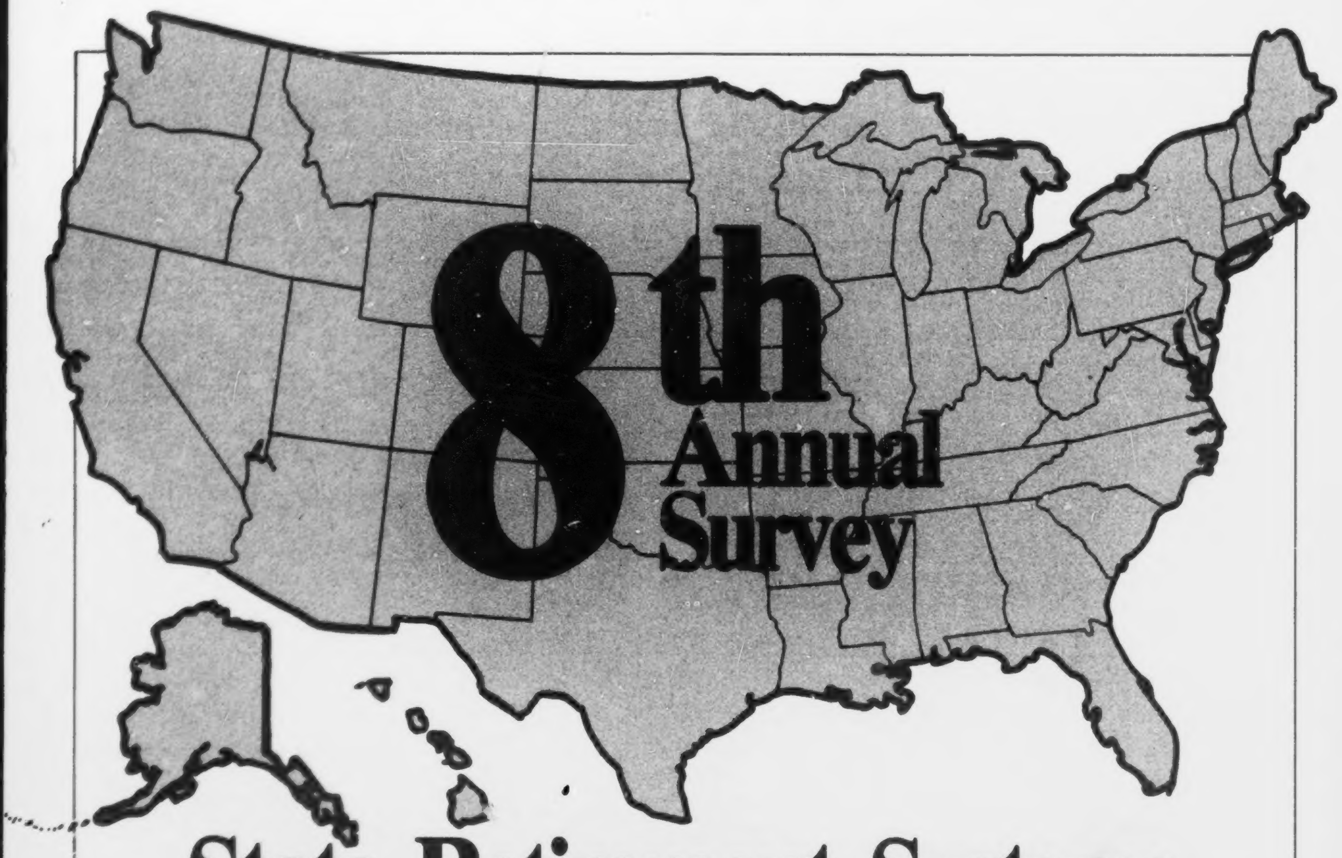
Cities. The report concludes with some instructive case studies on the impact of pension costs on certain U.S. cities — New York, Chicago, Los Angeles, Philadelphia, Detroit, Baltimore, Houston, and Dallas. The one city whose pension plan apparently is in good financial shape maintained a strong actuarial reserve funding posture up to the time of this report.

The report notes that several large cities appear to have identified and reacted to the financial problems of their pension plans. Most have either adopted or are currently discussing the creation of new pension funds with reduced benefit levels for newly hired employees. These changes could stabilize these cities' pension costs.

The voluminous information in *The Future of State and Local Pensions* updates material presented in the House Pension Task Force report. However, the results of the study are not applicable to plans with fewer than 1,000 lives.

The report contains a number of errors and questionable, unsupported statements. It makes several recommendations but often fails to subject these recommendations to a cost-benefit analysis. Its burdensome reporting and disclosure recommendations are a case in point.

State and local government officials should proceed cautiously before using any of the material contained in this report as justification or support for planned courses of action. This cautionary note should also be taken to heart by those who would use the report to justify further regulation of state and local government pension plans. ☐



8th Annual Survey

State Retirement Systems

■ Forty-nine states and 90 public retirement systems are included in *Pension World*'s 1981 State Retirement Survey. The data that follow were compiled from responses to *Pension World*'s questionnaire, which was mailed during July, 1981, to the administrators or directors of investment of 93 state systems. Answers received represent a 96.8 percent response rate. All of the systems listed here were also included in the 1980 survey with the exception of the Illinois Municipal Retirement Fund, the Oklahoma Public Employees Retirement System, and the State Teachers Retirement System of Vermont, which are new to the universe this year. The following statistics refer to the 87 systems included in both 1980 and 1981.

Last year's data indicated that 26 percent of the state retirement systems reporting had added for the first time or significantly increased their use of external advisors. This year, however, that percentage dropped to 12.6 — five funds added non-discretionary advisors, two retained managers with full investment authority, two added discretionary managers on the equity side only, and two increased their present advisors' authority from non-discretionary to discretionary. Two other funds moved their investment management in-house.

Again this year, a number of states have shown impressive gains in size. With holdings of each state's funds combined, only five states showed increases of less than 10 percent, on a dollar for dollar basis. Sixteen states increased 10 to 19 percent; 15 increased 20 to 29 percent; and 14 states — Connecticut, Delaware, Idaho, Kansas, Michigan, Mississippi, Montana, Nebraska, New Jersey, North Dakota, Oklahoma, South Carolina, South Dakota, and West Virginia — increased their holdings 30 percent or more over the past year.

Several points should be noted for accurate interpretation of the following survey.

- All figures are at cost, unless otherwise noted, and are based on completed responses to the *Pension World* questionnaire.
- Where breakdowns were provided by the state systems, government-insured mortgages have been included in the "Mortgage" category and noted as such.
- Investments in the "Other" category, where itemized by individual systems, include: Canadians (11 funds), CD's (seven), government-guaranteed loans (five), GIC's (five), convertibles (four), foreign securities (four), receivables (three), commercial paper (three), bank notes (two), gold bullion (two), private placements (two), index fund (one), utilities (one), real property (one), and venture capital (one).

Name and address of fund	Contact person	Total assets (in millions $)	Common stock (in millions $)	Preferred stock (in millions $)	U.S. gov't securities (in millions $)
The Retirement Systems of Alabama 135 South Union Street Montgomery, AL 36130 205/832-4140	David G. Bronner Secretary-Treasurer	2,600 (bk.)	109.2 (bk.)		
Alaska Public Employees Retirement System Pouch SB Juneau, AK 99811 907/465-2350	Peter A. Bushre Deputy Commissioner	504	46		150
Alaska Teachers Retirement System Pouch SB Juneau, AK 99811 907/465-2350	Peter A. Bushre Deputy Commissioner	379.1	51.1		106.8
Arizona Public Safety Personnel Retirement System Suite 411 3033 North Central Avenue Phoenix, AZ 85012 602/274-3003	Lowell Sutton Administrator	381.7	76.6		64.1
Arizona State Retirement System P.O. Box 33910 Phoenix, AZ 85067 602/255-5131	Max Sullivan Director	2,002.1	668.4	3.2	401.4
Arkansas Public Employees Retirement System One State Capitol Mall Little Rock, AR 72201 501/371-3679	Fred E. Henne Executive Director	418	42.9		117.1
Arkansas State Highway Employees Retirement System P.O. Box 2261 Little Rock, AR 72203 501/569-2411	J. E. McCarthy Executive Secretary	81.4	9.6		20.9
Arkansas State Police Retirement System One State Capitol Mall Little Rock, AR 72201 501/371-3679	Fred E. Henne Executive Secretary	23	1.5		3.3
Arkansas Teacher Retirement System Educational Building West Capital Grounds Little Rock, AR 72201 501/371-1517	Mavolene C. Booth Assistant Director for Investments	547 (bk.)	105 (bk.)		115 (bk.)
California Legislators Retirement System 1416 Ninth Street Sacramento, CA 95814 916/445-7700	Melvin W. Petersen Chief of Investments	37.1 (bk.)	8.3 (bk.)	.4 (bk.)	.3 (bk.)
California Public Employees Retirement System 1416 Ninth Street Sacramento, CA 95814 916/445-7700	Melvin W. Petersen Chief of Investments	14,840.1 (bk.)	3,403.8 (bk.)	23.5 (bk.)	1,502.2 (bk.)
California State Teachers Retirement System 1416 Ninth Street Sacramento, CA 95814 916/445-7700	Melvin W. Petersen Chief of Investments	8,292.8 (bk.)	1,490.3 (bk.)	10.3 (bk.)	991.1 (bk. — includes int'l institutions)
Public Employees Retirement System of Colorado 1300 Logan Street Denver, CO 80203 303/832-9550	Joseph P. Natale Executive Secretary	2,388	518.8		287.2
Connecticut State Retirement Systems 20 Trinity Street Hartford, CT 06115 203/566-2166	Lee Van Meter Deputy Treasurer of Investments	1,709 (mkt.)	666.5 (mkt.)		119.5 (mkt.)
Delaware State Employees Retirement Fund Office of Pensions Thomas Collins Building P.O. Box 1401 Dover, DE 19901 302/736-4208	Donald McArdle Administrator	381.7 (mkt.)	177.5 (mkt.)		15.5 (mkt.)

Corporate bonds (in millions $)	Mortgages (in millions $)	Other real estate (in millions $)	Cash and short-term securities (in millions $)	Other (in millions $)	Reporting date	Investment advisors
977.6 (bk.)	624 (bk.)		169 (bk.)	715 (bk.)	6/30/81	Internal administration, First National Bank of Birmingham (non-discretionary)
35	156	21	71	25	5/31/81	Morgan Guaranty Trust Co., Alliance Capital Management Corp.
28.7	125.3	21.3	14.0	21.0	5/31/81	Morgan Guaranty Trust Co., Alliance Capital Management Corp.
178.5			50.7		6/30/81	Internal administration
548.4	148.9	1.8	230.0		6/30/81	Alliance Capital Management Corp., Invesco Capital Management, Kemper Financial Services, Bernstein-Macaulay, Valley National Bank of Arizona, Fiduciary Trust Co. of New York
206.1	42.1 (GNMA's)		9.8		6/30/81	Loomis, Sayles & Co.
46.9			.5	3.5	6/30/81	Loomis, Sayles & Co.
14.7	2.4 (GNMA's)		1.1		6/30/81	Loomis, Sayles & Co.
228 (bk.)	44 (bk.)		52 (bk.)		5/30/81	Oppenheimer Capital Corp.
10.4 (bk.)	16.4 (bk.)		1.3 (bk.)		6/30/81	Internal administration
6,357.7 (bk.)	3,301.9 (bk.)	5.1 (bk.)	245.9 (bk.)		6/30/81	Internal administration, Citicorp Investment Management
3,650.8 (bk.)	1,956.7 (bk.)		193.6 (bk.)		6/30/81	Internal administration; Scudder, Stevens & Clark
1,612.5	280.3	17.0	91.6	88.8	12/31/80	Bankers Trust Co., Provident National Bank
581.1 (mkt.)	213.6 (mkt.)			51.3 (mkt.)	6/30/81	Equity: David L. Babson & Co., Connecticut Bank & Trust, Bernstein-Macaulay, Capital Guardian Trust Co.; Fixed income; internal administration, Harris Trust, Scudder, Stevens & Clark
51.5 (mkt.)		38.2 (mkt.)	68.0 (mkt.)	43.5 (mkt.)	6/30/81	T. Rowe Price Associates; Fayez Sarofim & Co., Putnam Advisory Co.; Atlanta Capital Management Co.; Harris, Bretall & McEldowney; Lincoln Capital Management Co.; Provident Investment Counsel; Forstmann-Leff Associates; Eagle Management & Trust Co.; Wells Fargo Investment Advisors; Aetna Life & Casualty Co.; John Hancock Mutual Life Insurance Co.; The Travelers Insurance Co.; Citibank, N.A.

Name and address of fund	Contact person	Total assets (in millions $)	Common stock (in millions $)	Preferred stock (in millions $)	U.S. gov't securities (in millions $)
Florida Retirement System Trust Fund Room 530 Carlton Building Tallahassee, FL 32304 904/488-5541	A. J. McMullian Director	4,475	483		893
Georgia Employees Retirement System Two Northside/75 Atlanta, GA 30381 404/656-2151	Graham R. Lynch Director of Investments	683 (mkt.)	238 (mkt.)		128 (mkt.)
Georgia Teachers Retirement System Two Northside/75 Atlanta, GA 30381 404/656-2151	Graham R. Lynch Director of Investments	1,775 (mkt.)	649 (mkt.)		279 (mkt.)
Hawaii Employees Retirement System 888 Mililani Street, Suite 502 Honolulu, HI 96813 808/548-7593	Stanley Siu Secretary	1,257.5 (bk.)	156.8 (bk.)	16.5 (bk.)	268.0 (bk.)
Public Employee Retirement System of Idaho Statehouse Boise, ID 83704	T. F. Terrell Executive Director	406.1 (bk.)	171.8 (bk.)	9.2 (bk.)	30 (bk.)
Illinois Municipal Retirement Fund Public Employee Pension Fund Division Department of Insurance Springfield, IL 62767 217/782-3824	Dwight O. Anderson Assistant Deputy Director	1,198	210.7 (bk.)		391.2 (bk.)
Illinois State Board of Investments: General Assembly Fund, Judges Retirement Fund, State Employees Retirement System Fund 180 North LaSalle Chicago, IL 60601 312/793-5718	Robert Harmon Director	1,012.5 (mkt.)	323.0 (mkt.)		227.8 (mkt.)
Illinois State Universities Retirement System 50 Gerty Drive Champaign, IL 61820 217/333-3860	Charles M. Hundley Associate Director	1,082 (bk.)	364 (bk.)		128 (bk.)
Teachers Retirement System of the State of Illinois 2815 West Washington Street Springfield, IL 62706 217/753-0315	Samuel W. Anderson Acting Director	2,782 (bk.)	695 (bk.)		433 (bk.)
Indiana Judges Retirement System 143 West Market Street Indianapolis, IN 46204 317/232-1619	C. Philip Barnes Manager/Investment Department	6			6
Indiana Public Employees Retirement Fund Suite 110, Harrison Building 143 West Market Street Indianapolis, IN 46204 317/232-1619	C. Philip Barnes Manager/Investment Department	714.4			278.9
Indiana State Police Pension Fund 242 State House Indianapolis, IN 46204 317/232-6386	W. A. Owen Investment Advisor	47.2			.3
Indiana State Teachers Retirement Fund 506 State Office Building 100 North Senate Indianapolis, IN 46204 317/232-3860	Edmond G. Niehoff Assistant Executive Secretary	529			254.5
Iowa Peace Officers Retirement System State Capitol Building Des Moines, IA 50319 515/281-5369	Roger G. Barnett Deputy Treasurer	23	3		9
Iowa Public Employees Retirement System 1000 East Grand Avenue Des Moines, IA 50319 515/281-8212	Edward R. Longnecker Director	1,504.4	155.4 (combined)		216.3 (par)

Corporate bonds (in millions $)	Mortgages (in millions $)	Other real estate (in millions $)	Cash and short-term securities (in millions $)	Other (in millions $)	Reporting date	Investment advisors
2,660			439		6/30/81	Internal administration
260 (mkt.)	19 (bk.)	3 (mkt.)	35		6/30/81	First National Bank of Atlanta
744 (mkt.)	33 (bk.)	18 (mkt.)	52 (bk.)		6/30/81	C & S National Bank of Atlanta
235.7 (bk.)	372.0 (bk.)		199.8 (bk.)	8.7 (bk.)	6/30/80	Bernstein-Macaulay; Delaware Investment Advisers; Eagle Management & Trust Co.; Fayez Sarofim & Co.; Lehman Management Co.; Loomis, Sayles & Co.; Pacific Investment Management Co.; Scudder, Stevens & Clark; Security Pacific Investment Managers; Wentworth, Hauser and Violich
90.9 (bk.)	16.5 (bk.)	37.9 (bk.)	42.3 (bk.)	7.4 (bk.)	7/21/81	Alliance Capital Management Corp.; Bank of Idaho, N.A.; Equitable Life Assurance Society of the U.S.; First Security Bank of Idaho; Idaho Bank and Trust Co.; Idaho First National Bank; Prudential Insurance Co. of America; Trident Investment Management
432.8 (bk.)			67.7	91.7	12/31/79	Internal administration
265.3 (mkt.)			175.2 (mkt.)	21.3 (mkt.)	6/30/81	Internal administration
459 (bk.)			100	20 (bk.)	5/31/81	Harris Trust
1,516 (bk.)	18 (bk.)		55 (bk.)	65 (bk.)	3/31/81	Springfield Marine Bank
					5/31/81	Internal administration
349.5			86.0		6/30/81	American Fletcher National Bank, Indiana National Bank, Merchants National Bank (custodian)
				46.9	6/30/81	Internal administration
105.8	100.5 (GNMA's & Freddie Macs)	5.3	52.9		6/30/81	Alliance Capital Management Corp., Bank of New York, American Fletcher National Bank, Indiana National Bank
9.4			1.6		6/30/81	Loomis, Sayles & Co.
796.8 (par)			78.6 (par)	241.8 (par)	6/30/81	The Boston Co., Alliance Capital Management Corp., Capital Guardian Trust Co.

Name and address of fund	Contact person	Total assets (in millions $)	Common stock (in millions $)	Preferred stock (in millions $)	U.S. gov't securities (in millions $)
Kansas Public Employees Retirement Fund 400 First National Bank Tower One Townsite Plaza Topeka, KS 66603 913/296-5257	Ronald J. Bleidissel Chief Accountant	1,038.8	354.8	3.4	149.3
Kentucky Retirement Systems 226 West Second Street Frankfort KY 40601 502/564-7987	Bobby J. McKee Operations Manager	791.8 (bk.)	206.7 (bk.)		268.4 (bk.)
Kentucky Teachers Retirement System 216 West Main Street Frankfort, KY 40601 502/564-2057	Stuart Reagan Investment Officer	1,034.0	140.3		447.9
Municipal Employees Retirement System of Louisiana 6750 Van Gogh Avenue Baton Rouge, LA 70806 504/925-4812	Janie S. Byrd Administrative Director	53			35.3
Louisiana School Employees Retirement System P.O. Box 44516 Baton Rouge, LA 70804 504/925-6484	Julia Bickham Accountant	194	4	1	47
Louisiana School Lunch Employees Retirement System Building C, Second Floor 9131 Interline Avenue Baton Rouge, LA 70809	Shirlyn Kees Assistant Secretary-Treasurer	44.7	.01	.05	19.3
Louisiana State Employees Retirement System P.O. Box 44213 Baton Rouge, LA 70804 504/342-5098	Vernon L. Strickland Director	808	43	32	358
Louisiana State Police Retirement Fund P.O. Box 66614 Baton Rouge, LA 70896 504/925-4878	Richard J. Maciasz Manager	11.9			3.8
Teachers Retirement System of Louisiana P.O. Box 44123 Capitol Station Baton Rouge, LA 70804 504/925-6446	Jennifer Netterville Investment Portfolio Specialist	1,408 (par)	28.2 (par)		422.4 (par)
Maine State Retirement System State Office Building Augusta, ME 04333 207/289-3461	William G. Blodgett Executive Director	384.2 (bk.)	170.1 (bk.)		68.9 (bk.)
Maryland State Retirement Systems 301 West Preston Street Baltimore, MD 21201 301/383-3798	Howard J. France Investment Administrator	2,683.0	919.7		536.0
Commonwealth of Massachusetts State Employees Annuity Fund State Treasurers Office Room 1203 1 Ashburton Place Boston, MA 02108 617/727-2010	Philip D. Kett Chief Investment Officer	834.4 (bk.)	66 (bk.) 91.2 (mkt.)		13.4 (bk.)
Commonwealth of Massachusetts State Teachers Annuity Fund State Treasurers Office Room 1203 1 Ashburton Place Boston, MA 02108 617/727-2010	Philip D. Kett Chief Investment Officer	983.1 (bk.)	66.7 (bk.) 93.6 (mkt.)		19.4 (bk.)
Michigan Judges Retirement System P.O. Box 15128 Lansing, MI 48901 517/373-3140	W. A. Amerman Director of Investments	32.6 (bk.)	4.0 (bk.)	.2 (bk.)	10.2 (bk.)
Michigan Legislative Retirement Fund P.O. Box 30036 Lansing, MI 48909 517/373-0575	Thomas G. Baker Administrator	22	.2		2.9

Corporate bonds (in millions $)	Mortgages (in millions $)	Other real estate (in millions $)	Cash and short-term securities (in millions $)	Other (in millions $)	Reporting date	Investment advisors
212.3			314.2	4.8	6/30/81	Reimer & Koger Associates, Montag & Caldwell, Oppenheimer Capital Corp., Capital Supervisors, Fourth National Bank & Trust Co., Investment & Capital Management Corp.
145.6 (bk.)	64.5 (bk.)		106.7 (bk.)		6/30/81	Capital Supervisors, Inc.
248.2	89.0		107.7		6/30/81	Todd Investment Advisors, Alliance Capital Management Corp., internal administration
14.1			3.8	.2	7/31/81	Internal administration
115			25	2	6/30/79	Hibernia National Bank in New Orleans
16.3	.7		7.1	1.3	6/30/81	Hibernia National Bank in New Orleans
203	31	1	72	68	9/30/80	Putnam Capital Management, Hibernia National Bank in New Orleans
3.6			3.4	1.2	3/31/81	Louisiana National Bank
760.3 (par)			197.1 (par)		6/30/81	Scudder, Stevens & Clark, Massachusetts Financial Services Co., Hibernia National Bank in New Orleans
45.5 (bk.)	5.4 (bk.)		50.4 (bk.)	43.9 (bk.)	6/30/81	Alliance Capital Management Corp., David L. Babson & Co., Massachusetts Financial Services Co., Merchants National Bank of Bangor, Merrill Trust Co., Morgan Guaranty Trust Co., Putnam Advisory Co., The Travelers Insurance Co.
834.0	57.6		335.7		7/9/81	Internal administration
741.5 (bk.)	264 (bk. — GNMA's)	9 (bk.)	27 (bk.)		6/30/81	Internal administration
881 (bk.)	338 (bk. — GNMA's)	10 (bk.)	24 (bk.)		6/30/81	Internal administration
13.3 (bk.)	.1 (bk.)		4.3 (bk.)	.5 (bk.)	5/31/81	Internal administration
11.8	2.0		6.7		6/30/81	Internal administration

Name and address of fund	Contact person	Total assets (in millions $)	Common stock (in millions $)	Preferred stock (in millions $)	U.S. gov't securities (in millions $)
Michigan Municipal Employees Retirement System Stevens T. Mason Building Lansing, MI 48909 517/373-9317	John W. Fonger Manager	434.6	66.3		253.2 (combined)
Michigan Probate Judges Retirement System P.O. Box 15128 Lansing, MI 48901 517/373-3140	W. A. Amerman Director of Investments	7.2 (bk.)	1.2 (bk.)		1.4 (bk.)
Michigan Public School Employees Chapter I Retirement System P.O. Box 15128 Lansing, MI 48901 517/373-3140	W. A. Amerman Director of Investments	3,866.2 (bk.)	497.2 (bk.)	3.0 (bk.)	682.2 (bk.)
Michigan Public School Employees Chapter II Retirement System P.O. Box 15128 Lansing, MI 48901 517/373-3140	W. A. Amerman Director of Investments	526.5 (bk.)	78.6 (bk.)	2.3 (bk.)	41.8 (bk.)
Michigan State Employees Retirement System P.O. Box 15128 Lansing, MI 48901 517/373-3140	W. A. Amerman Director of Investments	1,282.2 (bk.)	172.0 (bk.)	1.0 (bk.)	205.2 (bk.)
Michigan State Police Pension, Accident & Disability Fund P.O. Box 15128 Lansing, MI 48901 517/373-3140	W. A. Amerman Director of Investments	119.5 (bk.)	12.3 (bk.)		30.4 (bk.)
Minnesota State Investment Board 55 Sherburne Avenue St. Paul, MN 55104 612/296-3328	Jon White Executive Director	3,533.1	1,163.7		273.7
Mississippi Highway Safety Patrol Retirement System 1704 Sillers Building Jackson, MS 39201 601/354-6191	James Mayfield Investment Manager	33.8 (bk.)	2.7 (bk.)		4 (bk.)
Mississippi Public Employees Retirement System 1704 Sillers Building Jackson, MS 39201 601/354-6191	James Mayfield Investment Manager	1,167 (bk.)	85		169 (bk.)
Missouri State Highway Employees and Highway Patrol Retirement System P.O. Box 270 Jefferson City, MO 65101 314/751-3704	Mari Ann Winters Secretary	91.4 92.7 (mkt.)	28.1 35.6 (mkt.)	1.3 1.4 (mkt.)	22.5 17.8 (mkt.)
Public School Retirement System of Missouri P.O. Box 268 Jefferson City, MO 65102 314/425-7742	Alfred Graves Senior Vice President	1,214 (mkt.)	192.7 (mkt.)		
Montana State Board of Investments: Public Employees Retirement Fund, Teachers Retirement System Fund Capitol Station Helena, MT 59620 406/449-2656	Robert T. Bugni Securities Analyst	1,156 (bk.)	49.4 (bk.)		231.5 (bk.)
State of Nebraska Retirement Fund State Office Building Box 94696 Lincoln, NE 68509 402/471-2043	Donald J. Mathes State Investment Officer	268	14		254 (combined)
Nevada Public Employees Retirement System 693 West Nye Lane Carson City, NV 89701 701/885-4206	Linda Jean Lofgren Investment Analyst	847.4	89.0	5.2	
New Jersey Division of Investment 349 West State Street Trenton, NJ 08625 609/292-5106	Roland M. Machold Director	8,285 (bk.)	1,171 (bk.)	11 (bk.)	2,002 (bk.)

Corporate bonds (in millions $)	Mortgages (in millions $)	Other real estate (in millions $)	Cash and short-term securities (in millions $)	Other (in millions $)	Reporting date	Investment advisors
253.2 (combined)	5.0		69.0	41.2	6/30/81	American General Capital Advisors, Capital Supervisors Corp., Boston Co., Investment & Capital Management Corp.
3.4 (bk.)			1.1 (bk.)	.1 (bk.)	5/31/81	Internal administration
1,553.7 (bk.)	602.3 (bk.)	9.9 (bk.)	429.8 (bk.)	88.1 (bk.)	5/31/81	Internal administration
218.5 (bk.)	107.9 (bk.)		66.9 (bk.)	10.5 (bk.)	5/31/81	Internal administration
500.7 (bk.)	252.5 (bk.)		125.1 (bk.)	25.7 (bk.)	5/31/81	Internal administration
52.7 (bk.)	3.5 (bk.)		18.6 (bk.)	2.0 (bk.)	5/31/81	Internal administration
1,082.6	211.5 (GNMA's)		629.9	171.7	6/30/81	Internal administration
19.1 (bk.)	6 (bk. — GNMA's)		1	1.1	6/30/81	Fixed income: Lionel D. Edie & Co.; Equity: Alliance Capital Management Corp.; Fayez Sarofim & Co.; Scudder, Stevens & Clark
447 (bk.)	283 (bk.)		31.6	149	6/30/81	Fixed income: Lionel D. Edie & Co.; Equity: Alliance Capital Management Corp.; Fayez Sarofim & Co.; Scudder, Stevens & Clark
6.5 4.1 (mkt.)	0.2 0.2 (mkt.)		16.2 16.2 (mkt.)	16.6 17.4 (mkt.)	5/31/81	United Missouri Bank of Kansas City, N.A.
671 (mkt.)	287.3 (mkt.)		62.8 (mkt.)		12/31/80	The Boatman's National Bank of St. Louis
649.6 (bk.)	76.7 (bk.)		97.2 (bk.)	51.9 (bk.)	6/30/81	Internal administration; Scudder, Stevens & Clark (non-discretionary)
254 (combined)					6/30/81	Internal administration, Bankers Life Insurance Co. of Nebraska, The Travelers Insurance Co.
559.4	141.1	10.1	41.7	.8	5/31/81	Stocks and bonds: Funds Advisory Co.; Mortgages and real estate: internal administration
3,121 (bk.)	714 (bk.)	6 (bk.)	1,260 (bk.)		6/30/80	Internal administration

Name and address of fund	Contact person	Total assets (in millions $)	Common stock (in millions $)	Preferred stock (in millions $)	U.S. gov't securities (in millions $)
New Mexico Educational Retirement Board P.O. Box 1029 Santa Fe, NM 87503 505/827-2818	Frank Ready Director	508	46		219
Public Employees Retirement Association of New Mexico P.O. Box 2123 Santa Fe, NM 87501 505/827-2529/2579	Leonard T. Valdes Executive Secretary Ralph Miller Investment Officer	425.4	108.4		110.0
New York State Common Retirement Fund Governor A. E. Smith State Office Building Albany, NY 12236 518/474-6398	Madelon Talley Director/Division of Investment & Cash Management William Hay Chief Investment Officer	14,695.6 (bk.)	3,490.4 (bk.)		5,362.8 (bk.)
New York State Teachers Retirement System 143 Washington Avenue Albany, NY 12210 518/447-2911	Donald L. Blaha Manager of Field Services & Publications	8,680	2,858		1,573
North Carolina Retirement Systems 325 North Salisbury Street Raleigh, NC 27611 919/733-7273	Christopher S. Moore Deputy Treasurer and Director/Investment and Banking Division	4,667 (bk.)	596 (bk.)		58 (bk.)
North Dakota Public Employees Retirement System P.O. Box 1214 Bismarck, ND 58502 701/224-2975	Dave Klemmer Deputy Director	70.0	29.6		22.1
Police and Firemen's Disability and Pension Board of Ohio 230 East Town Street Columbus, OH 43215 614/228-4076	Richard F. Thompson Investment Manager	937	150		136
Public Employees Retirement System of Ohio 277 East Town Street Columbus, OH 43215 614/466-7320	Robert A. McLaughlin Investment Officer	5,700 (mkt.)	1,400 (mkt.)		470 (mkt.)
School Employees Retirement System of Ohio 45 North Fourth Street Columbus, OH 43215 614/221-7012	R. Jack Cooper Investment Officer	1,003	193		94
The State Teachers Retirement Board of Ohio 275 East Broad Street Columbus, OH 43215 614/227-4006	Stephen A. Mitchell Director of Investments	5,590.4 (bk.)	1,502.5 (bk.)	18.8 (bk.)	901.7 (bk.)
Oklahoma Public Employees Retirement System Box 53007 Oklahoma City, OK 73152 405/521-2731	J. O. Spiller Director	350	82		68.2
Teachers Retirement System of Oklahoma P.O. Box 53524 Oklahoma City, OK 73152 405/521-2387	Jo Witt Investment Officer	600 (bk.)	110 (bk.)		158 (bk.)
Oregon Public Employee Retirement System: Public Employee Retirement Fund, Judges Retirement Fund 1099 S.W. Columbia Street Box 73 Portland, OR 97207 503/229-5977	Pat Durward Chief Accountant	2,317.1	1,120.7 (mkt.)		186.5
Pennsylvania Municipal Retirement Fund Box 1165 Harrisburg, PA 17108 717/787-2065	Robert C. Rossman Secretary	60	9		12
Pennsylvania Public School Employees Retirement System Box 125 Harrisburg, PA 17108 717/783-9412	R. J. McElroy Director Bureau of Fiscal Control	4,603.1 (bk.)	822.7	5.1 (bk.)	205.5 (bk.)

Corporate bonds (in millions $)	Mortgages (in millions $)	Other real estate (in millions $)	Cash and short-term securities (in millions $)	Other (in millions $)	Reporting date	Investment advisors
236	(included in U.S. gov'ts)		7		6/30/81	Vaughan, Nelson & Hargrove
137.5	10.1	3.9	54.5	1.1	6/30/81	Fiduciary Trust Co. of New York
2,360.8 (bk.)	2,047.1 (bk.)		1,434.5 (bk.)		6/30/81	Internal administration, Alliance Capital Management Corp., Bank of N.Y., Chemical Bank, Lazard Freres & Co., Morgan Guaranty Trust, Oppenheimer Capital Corp., L. F. Rothschild Asset Mgmt., J & W Seligman, U.S. Trust Co.
2,368	1,188	19	413	261	6/30/81	Internal administration, Lionel D. Edie & Co. (non-discretionary)
4,011 (bk.)	(included in corporate bonds)		2		12/31/80	Equity: internal administration; Alliance Capital Management Corp. (non-discretionary); Thorndike, Doran, Paine & Lewis (non-discretionary); Fixed income: internal administration; Duff & Phelps (non-discretionary)
4.4	8.7		5.3		6/30/81	Wall, Patterson, McGrew & Hamilton; Bank of North Dakota
223			118	310	5/31/81	Fixed income: internal administration; Equity: Bank of New York, Value Line Asset Management
3,200 (mkt.)	32 (mkt.)		600 (mkt.)		6/30/81	Fixed income: internal administration; Equity: Value Line Asset Management
370	252	23	69		6/19/81	Common stock: Bankers Trust Co.; Other: internal administration
1,201.0 (bk.)	1,024.9 (bk.)	254.7 (bk.)	685.0 (bk.)	1.8 (bk.)	6/30/81	Internal administration
192.2			7		6/30/81	First National Bank and Trust of Oklahoma City
357 (bk.)			25 (bk.)		6/30/81	First National Bank and Trust of Oklahoma City
634.8	311.3	.5	43.2	20.0	12/31/81	Fixed income: internal administration; Equity: David L. Babson & Co., Batterymarch Financial Management Corp., BEA Associates, George D. Bjurman & Associates, Columbia Management Co., Harris Associates, Quest Advisory Corp., Rosenberg Capital Management, Fayez Sarofim & Co., William D. Witter, Inc.
24			15		6/30/81	Fidelity Bank
2,175.2 (bk.)	846.1 (bk.)	44.3 (bk.)	504.2 (bk.)		5/31/81	Stocks and bonds: Mellon Bank; Mortgages: Fidelity Bank

Name and address of fund	Contact person	Total assets (in millions $)	Common stock (in millions $)	Preferred stock (in millions $)	U.S. gov't securities (in millions $)
Pennsylvania State Employees Retirement Fund Room 204 Labor and Industry Building Harrisburg, PA 17120 717/787-5759	Frances M. Crimbly Assistant Secretary	3,137	647	4	236
Employees Retirement System of the State of Rhode Island 198 Dyer Street Providence, RI 02903 401/277-2203	Joseph G. Iannelli Director	400.9	93.5	.1	106.3
South Carolina Retirement System P.O. Box 11778 Columbia, SC 29211 803/758-7695	Grady L. Patterson, Jr. State Treasurer	2,240.5			38.3 (par)
South Dakota Retirement System 216 East Capitol Pierre, SD 57501 605/773-3731	Al A. Asher Administrator	284.8	103.4		144
Tennessee Consolidated Retirement System 1211 Andrew Jackson Building Nashville, TN 37219 615/741-2643	H. Swift Lipscomb Chief Investment Officer	1,800 (mkt.)	578 (mkt.)		413
Employees Retirement System of Texas P.O. Box 13207 Capitol Station Austin, TX 78711 512/476-6431	John B. Randolph Director of Investments	1,631 (bk.)	227 (bk.)		458
Teacher Retirement System of Texas 1001 Trinity Street Austin, TX 78701 512/477-9711/9701	Bruce Hineman Executive Secretary Clark Manning Investment Officer	6,076 (bk.)	1,731 (bk.)		2,496 (bk. — includes $1,500 mortgage-backed)
Utah State Retirement Fund 540 East Second South Salt Lake City, UT 84102 801/355-3884	Reed E. Gunderson Investment Officer	1,063	254		247
Vermont State Retirement Fund State Administration Building Montpelier, VT 05602 802/828-2305	Edwin C. Gallison Director of Retirement Services	112 (mkt.)	40 (mkt.)	.9 (mkt.)	8 (mkt.)
State Teachers Retirement System of Vermont State Administration Building Montpelier, VT 05602 802/828-2305	Edwin C. Gallison Director of Retirement Services	140 (mkt.)	40.2 (mkt.)		24 (mkt.)
Virginia Supplemental Retirement System P.O. Box 6-C Richmond, VA 23214 802/828-2305	Robert H. Daniel Investment Officer	1,995	740.7		468.1
Washington State Board of Investments: Employees Retirement Fund, Teachers Retirement Fund, Law Enforcement Officers and Firefighters Fund, Judicial Retirement Fund 314 Insurance Building, AQ-34 Olympia, WA 98504 206/753-6810	John Hitchman Executive Secretary Finance Committee	3,518.1 (bk.)	753.3 (bk.)		553.0 (bk.)
West Virginia Public Employees Retirement System Building 5, Room 148 Capitol Complex Charleston, WV 25305 304/348-2031	Lewis N. McManus Executive Secretary	403 (mkt.)			186.8 (mkt.)
State of Wisconsin Investment Board 244 West Washington Avenue Madison, WI 53702 608/266-2[illegible]1	Kenneth E. Codlin Executive Director	5,714 (retirement system only)	2,030 (mkt.)		613 (par)
Wyoming Retirement System Third Floor Barrett Building Cheyenne, WY 82001 307/777-7691	Jeff Gardner Deputy Director	318 (bk.)			130 (bk.)

Corporate bonds (in millions $)	Mortgages (in millions $)	Other real estate (in millions $)	Cash and short-term securities (in millions $)	Other (in millions $)	Reporting date	Investment advisors
1,512	483		251		5/31/81	Mellon Bank; Alliance Capital Management Corp.; Miller, Anderson & Sherrerd; The Philadelphia Savings Fund Society
132.0			1.5	65.3	6/30/80	Internal administration
2,202.2					12/31/80	Jamison, Eaton & Wood
.83			36.5	.1	6/30/81	Internal administration; Eagle Management & Trust Co.; Dreman, Gray and King
562	7		104		3/31/81	Internal administration
687			279		5/31/81	E. F. Hutton
1,682 (bk.)	49 (bk.)		117 (bk.)		6/30/81	Internal administration; Doran, Paine & Lewis (non-discretionary)
382	20	61	99		6/30/81	Capital Consultants, Eagle Management & Trust Co., Smoot Knoche & Co., Trust Co. of the West, Value Line Asset Management
28 (mkt.)	10 (mkt.)		22 (mkt.)	5 (mkt.)	6/30/81	Loomis, Sayles & Co.; Brundage, Story & Rose; Colonial Management Associates
9 (mkt.)	12.6 (mkt.)		29.9 (mkt.)	23.1 (mkt.)	6/30/81	Colonial Management Associates; Common stock: Delaware Investment Advisers
68.8		21	157	539.5	6/30/81	Massachusetts Financial Services Co., Bank of New York, MacKay-Shields Financial Corp., Putnam Capital Management
829.4 (bk.)	829.4 (bk.)		276.5 (bk.)	276.5 (bk.)	6/30/81	Fixed income and passive equity: internal administration; Active equity: Batterymarch Financial Management Corp.; Columbia Management Co.; Eagle Management & Trust Co.; Pringle, Flinn, Elvins & Donahoe; Loomis, Sayles & Co.; Torray and Clark
198.7 (mkt.)			17.5 (mkt.)		6/30/81	Internal administration; Loomis, Sayles & Co.
2,021 (par)	197 (outstanding principal balance)	13 (bk.)	620	217 (par)	6/30/81	Internal administration
173 (bk.)		7 (bk. — SBA guaranteed)	8 (bk.)		5/31/81	Alliance Capital Management Corp.